					ST DEPARTMENT DIVISION C		URAL RES				AMENI	FC DED REPOR	RM 3	
		AF	PPLICATION FO	OR PERM	IIT TO DRILL					1. WELL NAME and N	UMBER NBU 921	-22J1BS		
2. TYPE O	F WORK	DRILL NEW WELL	REENTER	P&A WELL	. DEEPEN	WELL (	)			3. FIELD OR WILDCA	<b>T</b> NATURAL	BUTTES		
4. TYPE O	F WELL			nalhed Meth	hane Well: NO					5. UNIT or COMMUNI	TIZATION NATURAL		ENT NAM	ΛE
6. NAME (	OF OPERATOR		KERR-MCGEE OIL							7. OPERATOR PHONE				
8. ADDRE	SS OF OPERAT		P.O. Box 173779							9. OPERATOR E-MAII	L	anadarko	com	
	AL LEASE NUN		1.0. Box 170776	11. MI	NERAL OWNERS	400			_	12. SURFACE OWNER	SHIP			
	΄ ι	OWNER (if box 12	- 'foo'\	FED	DERAL (III) INC	DIAN ()	STATE (	) FEE	0	FEDERAL IN	DIAN (III)			EE(_)
												`		
15. ADDR	ESS OF SURFA	CE OWNER (if box	12 = 'tee')							16. SURFACE OWNE	R E-MAIL	(If box 12	: = 'fee')	
	N ALLOTTEE O	R TRIBE NAME			TEND TO COMM IPLE FORMATIO		RODUCTION	N FROM		19. SLANT				
<u> </u>		te Indian Tribe		YES	(Submit C	Commingli	ing Applicati	on) NO		VERTICAL DI	RECTION	AL D H	HORIZON	ΓAL 🔵
20. LOC/	ATION OF WELI	-		FOOTAGE	ES	QTF	R-QTR	SEC	CTION	TOWNSHIP	R/	ANGE	МЕ	ERIDIAN
LOCATIO	N AT SURFACI		200	05 FSL 64	4 FEL	NI	ESE	2	22	9.0 S	2	1.0 E		S
Top of U	ppermost Prod	lucing Zone	240	5 FSL 181	17 FEL	N/	WSE	2	22	9.0 S	2	1.0 E		S
At Total	Depth		240	5 FSL 181	17 FEL	N/	WSE	2	22	9.0 S	2	1.0 E		S
21. COUN	ITY	UINTAH		22. DI	STANCE TO NEA	REST LEA 877		eet)		23. NUMBER OF ACR	ES IN DRI 80		IT	
					STANCE TO NEA ied For Drilling		leted)	POOL		26. PROPOSED DEPT MD:	<b>H</b> 11234	TVD: 110	36	
27. ELEV	ATION - GROUN			28. BC	OND NUMBER	MD/D00				29. SOURCE OF DRIL WATER RIGHTS APPR		MBER IF A	PPLICAB	LE
		4838			Hole, Casing	WYB00		rmation	<b>1</b>		43-0	90		
String	Hole Size	Casing Size	Length	Weight			Max Mu			Cement		Sacks	Yield	Weight
Surf	11	8.625	0 - 2800	28.0	J-55 L1	Г&С	0.	.2		Type V		180	1.15	15.8
Prod	7.875	4.5	0 - 11234	11.6	HCP-110	LTOC	13	0	Dro	Class G mium Lite High Stre	nath	270 340	3.38	15.8
Fiou	7.073	4.5	0 - 11234	11.0	HOP-110	LIGO	13	.0	Fiel	50/50 Poz	ilgui	1620		14.3
			I		A	TTACHN	MENTS							l
	VEF	RIFY THE FOLLO	WING ARE AT	ACHED I	IN ACCORDAN	ICE WITI	H THE UTA	AH OIL A	ND GAS	CONSERVATION G	ENERA	L RULES		
<b>⊮</b> w	ELL PLAT OR M	AP PREPARED BY	LICENSED SURVE	YOR OR E	NGINEER		<b>№</b> сом	PLETE DE	RILLING PI	.AN				
AF	FIDAVIT OF STA	ATUS OF SURFACE	OWNER AGREEM	IENT (IF FE	EE SURFACE)		FORM	1 5. IF OP	ERATOR IS	OTHER THAN THE L	EASE OW	NER		
<b>I</b> ✓ DII	RECTIONAL SU	RVEY PLAN (IF DIR	ECTIONALLY OR	HORIZON	ITALLY DRILLED	))	торо	GRAPHIC	CAL MAP					
NAME La	ura Abrams			TITLE R	egulatory Analyst	: II			PHONE 7	20 929-6356				
SIGNATU	IRE			DATE 04	4/27/2012				EMAIL La	ura.Abrams@anadark	o.com			
	BER ASSIGNED 04752566			APPROV	/AL				bol	Rejill				
									Perm	t Manager				

NBU 921-22I Pad Drilling Program

1 of 4

# Kerr-McGee Oil & Gas Onshore. L.P.

NBU 921-22J1BS

Surface: 2005 FSL / 644 FEL NESE BHL: 2405 FSL / 1817 FEL NWSE

Section 22 T9S R21E

Unitah County, Utah Mineral Lease: UTU 010950-A

#### **ONSHORE ORDER NO. 1**

# **DRILLING PROGRAM**

# 1. & 2.a <u>Estimated Tops of Important Geologic Markers</u>: Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1,557'	
Birds Nest	1,815'	Water
Mahogany	2,352'	Water
Wasatch	4,869'	Gas
Mesaverde	7,756'	Gas
Sego	10,001'	Gas
Castlegate	10,025'	Gas
MN5	10,436'	Gas
TVD =	11,036'	
TD =	11,234'	

2.c Kerr McGee Oil & Gas Onshore LP (Kerr McGee) will either drill to the the Blackhawk formation, which is part of the Mesaverde formation, or the Wasatch/Mesaverde formation. If Kerr McGee drills to the Blackhawk formation (part of the Mesaverde formation), please refer to MN5 as the bottom formation. The attached Blackhawk Drilling Program includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the deeper formation.

If Kerr McGee drills to the Wasatch/Mesaverde formation please refer to Sego as the bottom formation. The attached Wasatch/Mesaverde Drilling Program includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the depths the Wasatch/Mesaverde formations are found.

NBU 921-22I Pad Drilling Program 2 of 4

### 3. <u>Pressure Control Equipment</u> (Schematic Attached)

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

### 4. <u>Proposed Casing & Cementing Program:</u>

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

#### 5. Drilling Fluids Program:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

#### 6. Evaluation Program:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

# 7. <u>Abnormal Conditions</u>:

#### 7.a Blackhawk (Part of Mesaverde Formation) Target Formation

Maximum anticipated bottom hole pressure calculated at 7,284 psi (0.66 psi/ft = actual bottomhole gradient)

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 4,906 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

#### 7.b Wasach/Mesaverde Target Formation

Maximum anticipated bottom hole pressure calculated at 10001' TVD, approximately equals 6,401 psi (0.64 psi/ft = actual bottomhole gradient)

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 4,186 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

# 8. <u>Anticipated Starting Dates:</u>

Drilling is planned to commence immediately upon approval of this application.

# 9. <u>Variances:</u>

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program Onshore Order #2 – Air Drilling Variance

 $Kerr-McGee\ Oil\ \&\ Gas\ Onshore\ LP\ (KMG)\ respectfully\ requests\ a\ variance\ to\ several\ requirements\ associated\ with\ air\ drilling\ outlined\ in\ Onshore\ Order\ 2$ 

- · Blowout Prevention Equipment (BOPE) requirements;
- · Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated with air drilling.

NBU 921-22I Pad Drilling Program
3 of 4

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

#### Background

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill a 11inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

### Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

#### Variance for Mud Material Requirements

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

# Variance for Special Drilling Operation (surface equipment placement) Requirements

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

NBU 921-22I Pad Drilling Program
4 of 4

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

#### Variance for FIT Requirements

KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

#### Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

### 10. Other Information:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

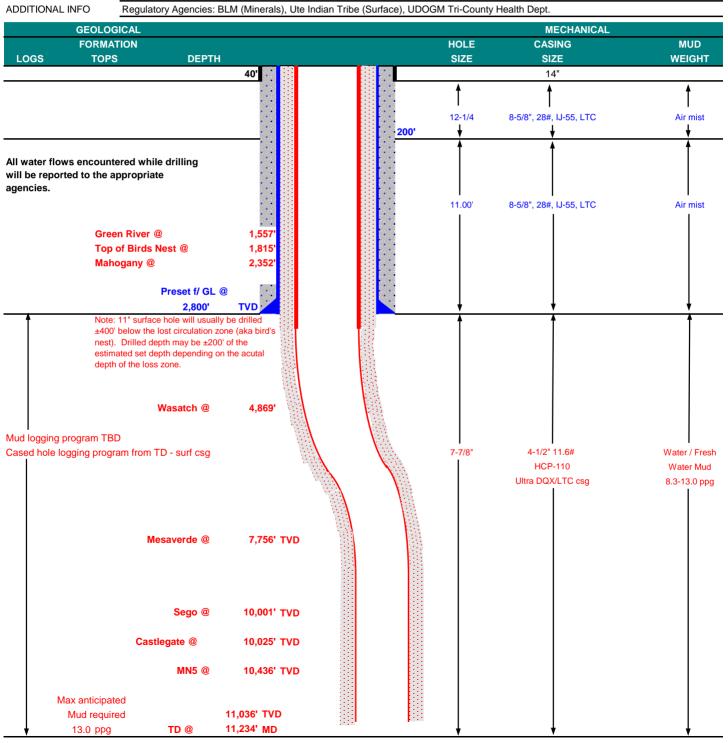
NBU 921-22I Pad Drilling Program

1 of 2



# KERR-McGEE OIL & GAS ONSHORE LP BLACKHAWK DRILLING PROGRAM

COMPANY NAME KER	R-McGEE OIL &	GAS ONSHORE	LP		DATE	December	· 19, 2011		
WELL NAME <b>NB</b>	U 921-22J1B	S			TD	11,036'	TVD	11,234' MD	
FIELD Natural Butte	S	COUNTY	Uintah	STATE Uta	h	FINIS	SHED ELEVATION_	4,838'	
SURFACE LOCATION	NESE	2005 FSL	644 FEL	Sec 22	T 9S	R 21E			
	Latitude:	40.019800	Longitude	e: -109.53	0715		NAD 83		
BTM HOLE LOCATION	NWSE	2405 FSL	1817 FEL	Sec 22	T 9S	R 21E			
	Latitude:	40.020905	Longitude	e: -109.53	4901		NAD 83		
OBJECTIVE ZONE(S)	BLACKHAWK						_		
ADDITIONAL INFO	Regulatory Age	ncies: BLM (Min	erals). Ute Ind	ian Tribe (Su	ırface). U	DOGM Tri-Co	unty Health Dept.		



NBU 921-22I Pad Drilling Program 2 of 2



# KERR-McGEE OIL & GAS ONSHORE LP BLACKHAWK DRILLING PROGRAM

**DESIGN FACTORS CASING PROGRAM** LTC DQX BURST **COLLAPSE TENSION** SIZE. INTERVAL WT GR. **CPLG** 0-40 CONDUCTOR 14' 3,390 348,000 N/A 1,880 **IJ-55 SURFACE** 8-5/8" 0 2,800 28.00 LTC 1.92 1.43 5.07 N/A 10,690 279,000 367,174 **PRODUCTION** 0 5,000 11.60 HCP-110 DQX 4-1/2" to 1.19 1.16 3.52

HCP-110

LTC

1.19

1.16

4.81

**Surface Casing:** 

(Burst Assumptions: TD = 13.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

5,000

to

4-1/2"

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

11.60

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi) 0.66 psi/ft = bottomhole gradient

11,234

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

#### **CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE L	.EAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
Option 1			+ 0.25 pps flocele				
TOP OUT CMT (6 j	jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
			+ 2% CaCl + 0.25 pps flocele				
SURFACE			NOTE: If well will circulate water to	o surface, op	tion 2 will be	utilized	
Option 2	.EAD	2,300'	65/35 Poz + 6% Gel + 10 pps gilsonite	210	35%	11.00	3.82
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
			+ 0.25 pps flocele				
TOP OUT	СМТ	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION L	.EAD	4,364'	Premium Lite II +0.25 pps	340	35%	12.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	6,870'	50/50 Poz/G + 10% salt + 2% gel	1,620	35%	14.30	1.31
			+ 0.1% R-3				

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

### **FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE

Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe

**PRODUCTION** 

Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well.

1 centralizer on the first 3 joints and one every third joint thereafter.

# ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys wi	ill be taken	at 1,000'	minimum	intervals

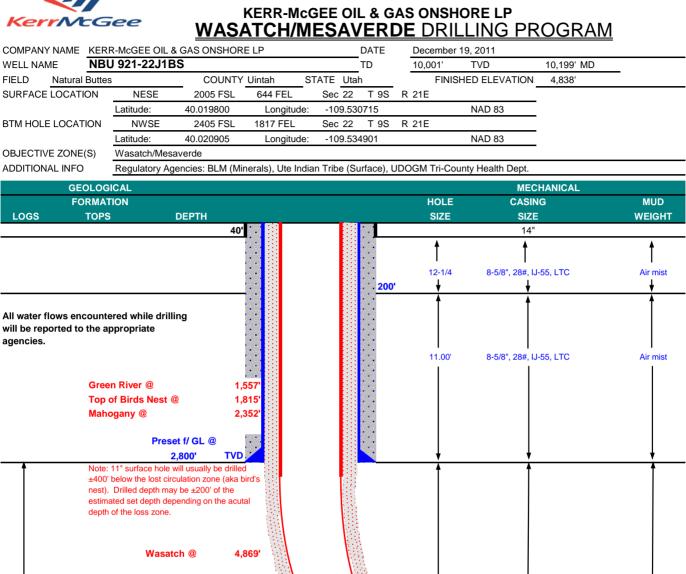
Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

	Most rigs have i vi System for mut	a monitoring. If no t vi is available, visual monitoring will be utilized	u.	
DRILLING	ENGINEER:		DATE:	
		Nick Spence / Danny Showers / Chad Loesel	_	
DRILLING	SUPERINTENDENT:		DATE:	
		Kenny Gathings / Lovel Young	_	

<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

NBU 921-221 Pad **Drilling Program** 1 of 2





NBU 921-22I Pad Drilling Program 2 of 2



# KERR-McGEE OIL & GAS ONSHORE LP

WASATCH/MESAVERDE DRILLING PROGRAM

# CASING PROGRAM

CONDUCTOR

**SURFACE** 

PRODUCTION

									LTC	DQX
SIZE	INT	ERVA	L	WT.	GR.	CPLG.	BURST	COLLAPSE	TE	ENSION
14"		0-40'								
							3,390	1,880	348,000	N/A
8-5/8"	0	to	2,800	28.00	IJ-55	LTC	1.92	1.43	5.07	N/A
							7,780	6,350		267,035
4-1/2"	0	to	5,000	11.60	I-80	DQX	1.11	0.98		2.79
							10,690	8,650	223,000	
4-1/2"	5,000	to	10,199'	11.60	HCP-110	LTC	1.53	1.33	4.57	

**Surface Casing:** 

(Burst Assumptions: TD =

12.5 ppg)

0.73 psi/ft = frac gradient @ surface shoe

**DESIGN FACTORS** 

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**Production casing:** 

(Burst Assumptions: Pressure test with 8.4ppg @

7000 psi)

0.64 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

#### **CEMENT PROGRAM**

ı	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	-	YIELD
SURFACE LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80		1.15
Option 1	000	+ 0.25 pps flocele	100	0070	.0.00		1.10
TOP OUT CMT (6 jobs)	1.200'	20 gals sodium silicate + Premium cmt	270	0%	15.80		1.15
	,	+ 2% CaCl + 0.25 pps flocele					
SURFACE		NOTE: If well will circulate water to	surface, opt	ion 2 will be	utilized		
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·		+ 0.25 pps Flocele + 3% salt BWOW					
TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80		1.15
		+ 0.25 pps flocele					
TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80		1.15
PRODUCTION LEAD	4,369'	Premium Lite II +0.25 pps	340	35%	12.00		3.38
		celloflake + 5 pps gilsonite + 10% gel					
		+ 0.5% extender					
TAIL	5,830'	50/50 Poz/G + 10% salt + 2% gel	1,380	35%	14.30		1.31
		+ 0.1% R-3					

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

#### **FLOAT EQUIPMENT & CENTRALIZERS**

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Surveys will	l be taken at	1,000'	minimum	intervals

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING	ENGINEER:
DRILLING	SUPERINTENDENT:

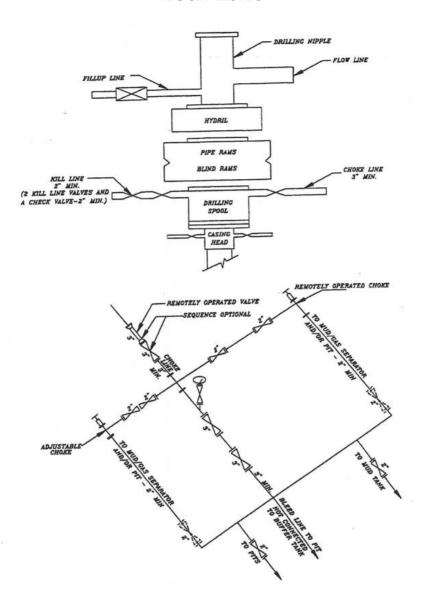
Nick Spence / Danny Showers / Chad Loesel	-
	DATE:

Kenny Gathings / Lovel Young

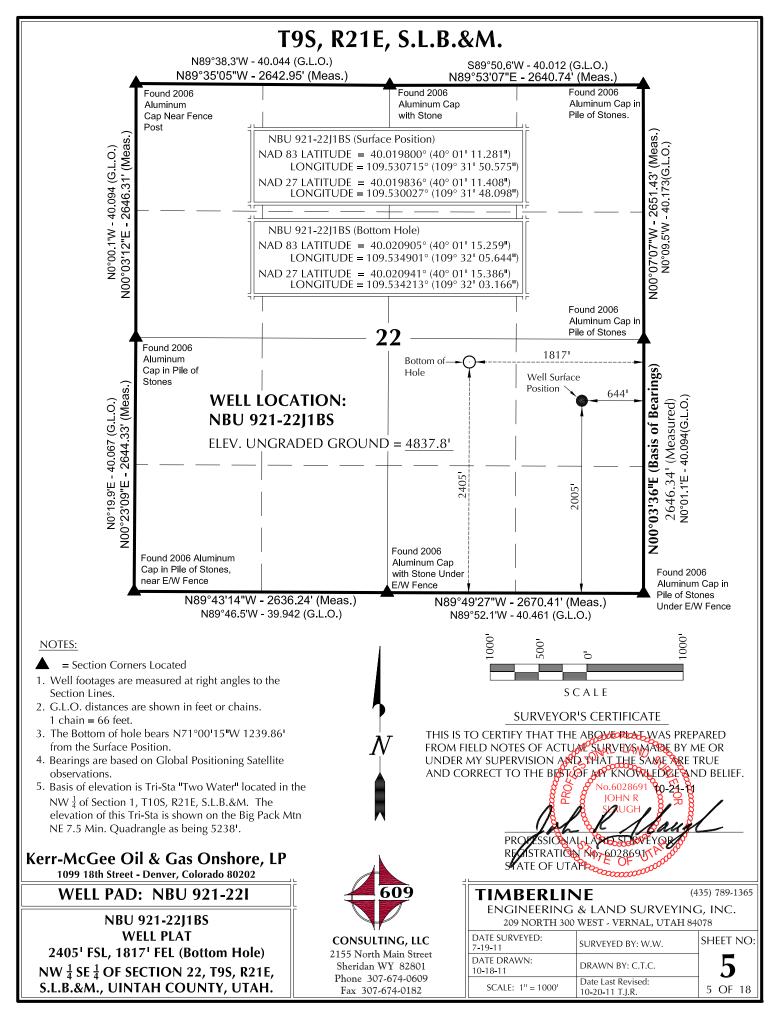
DATE:

<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

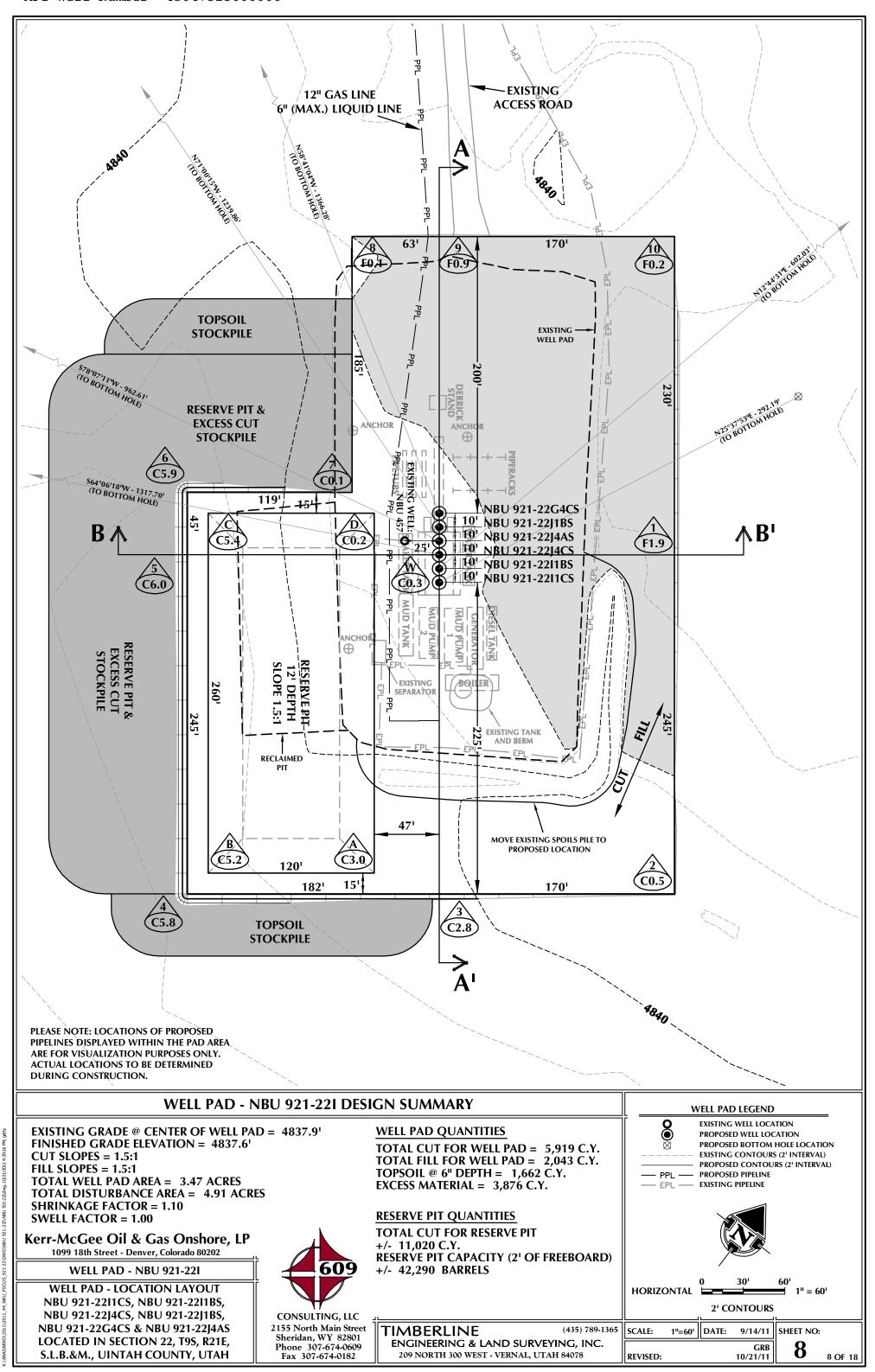
EXHIBIT A NBU 921-22J1BS

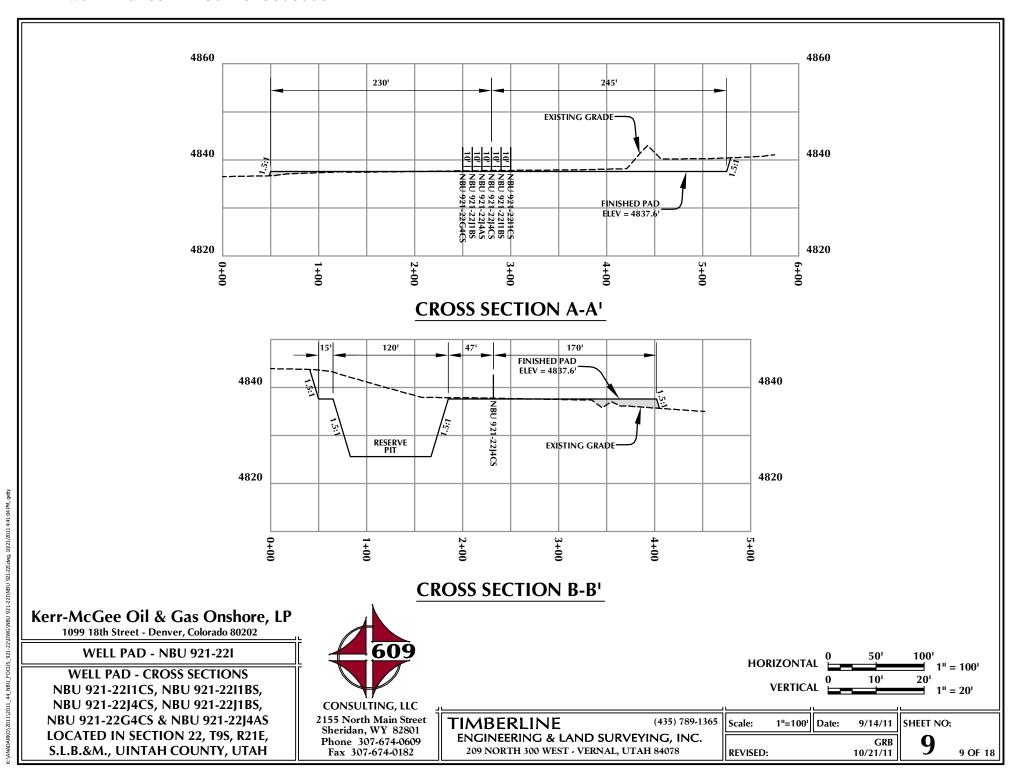


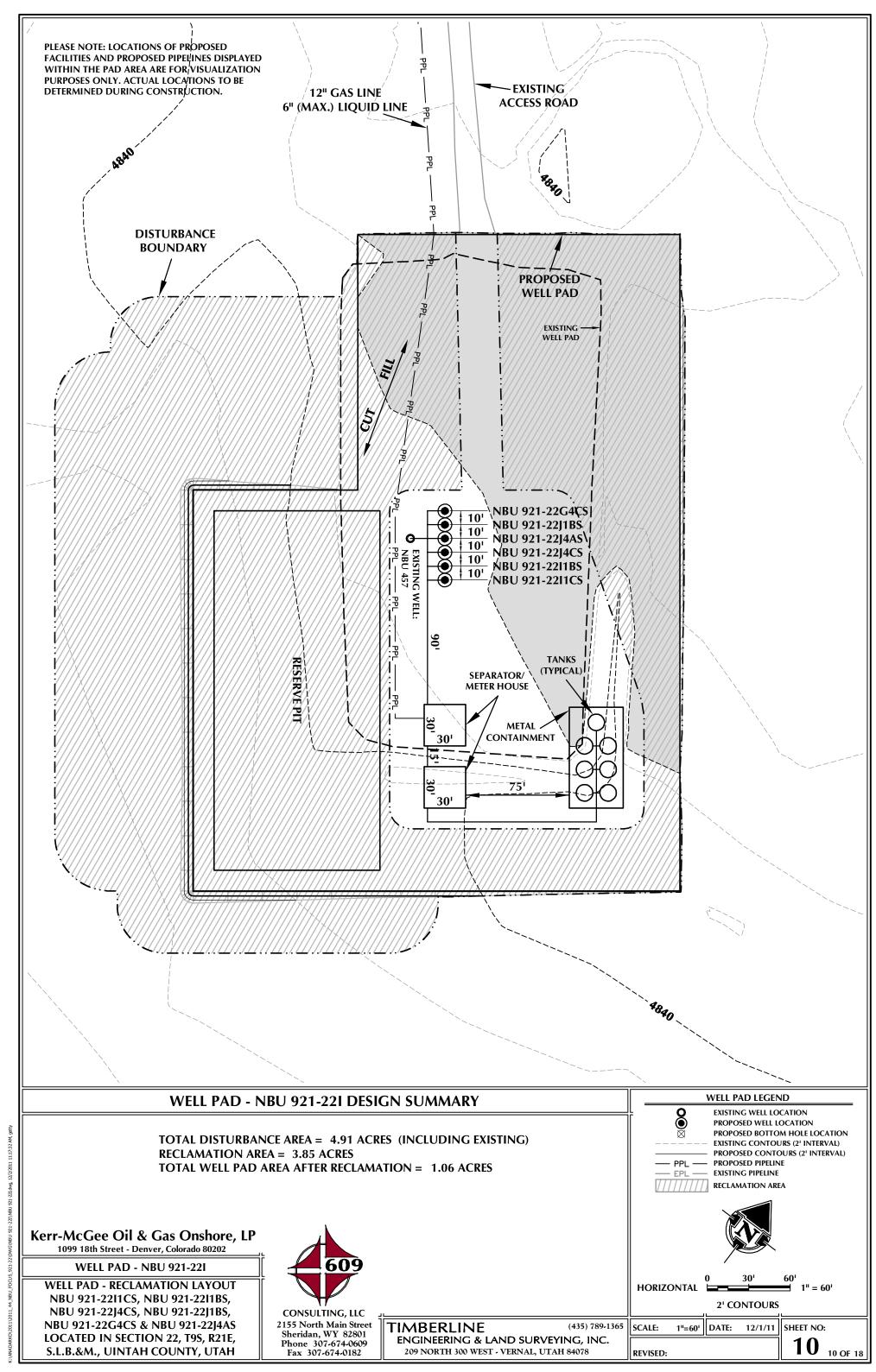
SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK



			SURFACE PO	SITION					- I	BOTTOM HOLE		
WELL NAME		AD83		NAD27				NAD	083	NAE		
NIRI	40°01'10.966	LONGITU				OOTAGES	LATITU		LONGITUDE	40°01'13 696"	LONGITUDE	FOOTAGES
NBU 921-2211CS	40°01°10.966 40.019713°	6" 109°31'50. 109.53062				1973' FSL 620' FEL	40°01'1. 40.0204		109°31'48.643" 109.530179°	40°01'13.696" 40.020471°	109°31'46.167"  109.529491°	2237' FSL 494' FEL
NBU	40°01'11.045	5" 109°31'50.	.343" 40°01'11	.171" 109°31	'47.866"	1981' FSL	40°01'1	6.849"	109°31'48.642"	40°01'16.976"	109°31'46.165"	2569¹ FSL
921-22I1BS NBU	40.019735° 40°01'11.123	109.53065 3" 109°31'50				626' FEL 1989' FSL	40.0213 40°01'0		109.530178° 109°32'05.647"	40.021382° 40°01'05.556"	109.529490° 109°32'03.170"	494' FEL 1410' FSL
921-22J4CS	40.019756°	109°31'50.				632' FEL	40.0181	75°	109.534902°	40.018210°	109°32'03.170" 109.534214°	1817' FEL
NBU 921 2214AS	40°01'11.202					1997' FSL			109°32'02.600"		109°32'00.123"	1796' FSL
921-22J4AS NBU	40.019778° 40°01'11.281	109.53069 1" 109°31'50				638' FEL 2005' FSL	40.0192 40°01'1		109.534056° 109°32'05.644"	40.019268° 40°01'15.386"	109.533368° 109°32'03.166"	1580' FEL 2405' FSL
921-22J1BS	40.019800°	109.53071	5° 40.01983	36° 109.53	0027°	644' FEL	40.0209	905°	109.534901°	40.020941°	109.534213°	1817' FEL
NBU 921-22G4CS	40°01'11.360   40.019822°	0"  109°31'50.  109.53073				2013' FSL 650' FEL	40°01'1 40.0217		109°32'05.659" 109.534905°	40°01'18.494" 40.021804°	109°32'03.181"  109.534217°	2569' FNL 1818' FEL
NBU 457	40°01'11.054		·	103,00		1982' FSL	1010217	9.5	109.554505	101021001	103.334217	TOTO TEE
	40.019737°	109.53076				658' FEL						
M/ELL NIAAAE	NORTH	FACT	1	TIVE COORD						NA/ELL NIAAA	IE NORTH	FACT
NBU	NORTH	126.41	WELL NAME NBU	NORTH	EAST	NBU	NAME	NORT		NBU NAM		EAST 043.01
921-22I1CS	263.41	126.4'	921-22I1BS	587.2	132.81	921-22	J4CS	-575	.5' -1185.4	921-22J4AS	-198.2	-942.01
WELL NAME	NORTH	EAST	WELL NAME NBU	NORTH	EAST	-					<u> </u>	
NBU 921-22J1BS	403.61	-1172.31	921-22G4CS	710.11	-1167.2	2'				4	<b>/</b>	
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			1/50	AZ 301.31 00104"W 1 14016	\	·7.1.			(To Bottom Hole) 22°44'31"E - 609		040m 409.	
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	~ _N;	7/°0°=280	70 k 1.99583° 1239.86' Hole)	041'04"W 1 0ttom Hole	5560	1.03.0	6		ton 74 E.	/ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	,ý	1
	Ĉ	To 2015"μ	.99 <sub>583°</sub>	10 Kg/	₹66.3	1/1/2	0011		30t, :12 31"	\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	o <sup>r</sup>	•
		" bottom	H239.86	1 Ne	y :<8'	, /,	32		10/4/	5/2		
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			.c)		<b>_</b>			` `	(To Bottom Hole) N12°44'31"E - 693	/		
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						\ \	2250	(S)	;o,   ;o,	/		
						2	1.22.60	IBS S	;o,   ;o,	/		
						) BU 97	1.22.2	IBS S	;o,   ;o,			
		<b>7</b> 2°				ARU 97	1.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2	185 187 114 121 121	;o,			
ΑZ	r=258.119	72° 062.61'			228 3	7 7 7 9 7 7 9 7 9 9 7 8 9 9 7 8 9 9 9 9	7.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2	185 187 121 121 121 121	;o,	SIS OF BEARIN		tt line of
AZ 578°C	r=258.119	72° 062.61'			437328833	ABU 97 PRU 97 PR	7870 7777 7777 7777	(5) 14A 110 121 121 121 121 121 121 121 121 121 121	;o,	SIS OF BEARIN E SE <sup>1</sup> 4 OF SECT	GS IS THE EAS ION 22, T9S, I	R21E,
AZ \$78°C	r=258.119	72° 062.61'			A.32328-33 A.32328-33 A.23838-33	268 ABU 93 ABU 92 ABU 93 ABU 9	480 480 1333 1333 1333 1333 1333 1333 1333 13	185 140 121 121 121 121 121 121 121 121 121 12	;o,	SIS OF BEARIN E SE <sup>1</sup> 4 OF SECT B.&M. WHICH	GS IS THE EAS ION 22, T9S, I I IS TAKEN FRO	R21E, OM
AZ \$78°0		72° 062.61'			4.32328°33 11.23838°33 12.331211	268 7481 268 7481 268 7481 40 269	7.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2	185 S 187 S 177 277 1 177 277 1	;o,	SIS OF BEARIN E SE <sup>1</sup> 4 OF SECT	GS IS THE EAS TON 22, T9S, I I IS TAKEN FRO DNING SATELL	R21E, Om Ite
\$78°C	/=258.119 07'11"W - 0 Bottom F	72° 962.61' Hole)			A.3232893. A.3232838 A.12331212 A.12331212 A.12331212 A.12331212 A.12331212 A.12331212 A.12331212 A.12331212 A.12331212 A.12331 A.123312 A.123312 A.123312 A.123312 A.123312 A.123312 A.123312 A	19. KBU 26. 8. 19. 19. 19. 19. 19. 19. 19. 19. 19. 19	1.221 1.221	185 187 1977 1977	;o,	SIS OF BEARIN E SE <sup>1</sup> 4 OF SECT B.&M. WHICH OBAL POSITIO	GS IS THE EAS TON 22, T9S, I I IS TAKEN FRO DNING SATELL	R21E, Om ITE
\$78°C	/=258.119 07'11"W - 0 Bottom F	72° 962.61' Hole)			W.H.232883 11.232.1511 12.33.1511	19. 78. 19. 19. 19. 19. 19. 19. 19. 19. 19. 19	7.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2	(S) 144 1 12 12 12 12 12 12 12 12 12 12 12 12 1	;o,	SIS OF BEARIN E SE <sup>1</sup> 4 OF SECT B.&M. WHICH OBAL POSITIO	GS IS THE EAS TON 22, T9S, I I IS TAKEN FRO DNING SATELL	R21E, Om ITE
\$78°C	/=258.119 07'11"W - 0 Bottom F	72° 962.61' Hole)			4.3232838 4.3232.511 1.233.511 1.233.511	12.293.29924° 12.293.29924° 12.293.29924° 12.393.29924° 12.393.29924° 12.393.29924° 12.393.29924° 12.393.29924° 12.393.29924° 12.393.29924° 12.39926° 12.399	1.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2	(S) 1445 1440 1440 1440 1440 1440 1440 1440	;o,	SIS OF BEARIN E SE <sup>1</sup> 4 OF SECT B.&M. WHICH OBAL POSITIO	GS IS THE EAS TON 22, T9S, I I IS TAKEN FRO DNING SATELL	R21E, Om ITE
\$78°C	/=258.119 07'11"W - 0 Bottom F	72° 962.61' Hole)			A.3.23.28.38 A.3.23.23.21.23.23.23.23.23.23.23.23.23.23.23.23.23.	26.8 PKBU 26.8 PKBU 26.8 PKBU 26.9 PKBU 26.9 26.9 PKBU 26.9 26.9 PKBU 26.9 P	1.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2	185 S 14 S 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	;o,	SIS OF BEARIN E SE <sup>1</sup> 4 OF SECT B.&M. WHICH OBAL POSITIO	GS IS THE EAS TON 22, T9S, I I IS TAKEN FRO DNING SATELL	R21E, Om ITE
\$78°C	/=258.119 07'11"W - 0 Bottom F	72° 962.61' Hole)			A3232838 A3232838 A12383811 EXISTI EX	19. KBU 9. 19. 19. 19. 19. 19. 19. 19. 19. 19.	1.221 1.221 1.221 1.201	185 187 1971 1971	;o,	SIS OF BEARIN E SE <sup>1</sup> 4 OF SECT B.&M. WHICH OBAL POSITIO	GS IS THE EAS TON 22, T9S, I I IS TAKEN FRO DNING SATELL	R21E, Om ITE
\$78°C	/=258.119 07'11"W - 0 Bottom F	72° 962.61' Hole)			4.37.328.8°.3.17.23.9.71.17.32.17.17.18.18.17.17.18.18.17.17.18.18.17.17.18.18.18.18.18.18.18.18.18.18.18.18.18.	26.8 KRU 26.8 KRU 1.26.8 KRU 1.26.9 KRU 1.26.9 26.9 26.9 26.9 26.9 26.9 26.9 26.9	7.221. ABI 9. 1.23	1855 1951 1971 1971	;o,   ;o,	SIS OF BEARIN E SE <sup>1</sup> 4 OF SECT B.&M. WHICH OBAL POSITIO	GS IS THE EAS TON 22, T9S, I I IS TAKEN FRO DNING SATELL	R21E, Om ITE
\$78°C	/=258.119 07'11"W - 0 Bottom F	72° 962.61' Hole)			4.32.32.838. 1.1.23.3.7.11. 1.1.23.3.7.11. 1.1.23.1.11. 1.1.2.5.4. 1.1.2.5.4. 1.1.2.5.4. 1.1.2.5.4. 1.1.2.5.4. 1.1.2.5.4. 1.1.2.5.4. 1.1.2.5.4.	12.03.20024° 3.20026° 3.20026°	1.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2	(S)	;o,   ;o,	SIS OF BEARIN E SE <sup>1</sup> 4 OF SECT B.&M. WHICH OBAL POSITIO	GS IS THE EAS TON 22, T9S, I I IS TAKEN FRO DNING SATELL	R21E, Om ITE
\$78°C	/=258.119 07'11"W - 0 Bottom F	72° 962.61' Hole)			A.32328°33'41'23838'11'233.21'11'233	126.8 NEU. 126.8 NEU.	1.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2	(S) 114 S 112 12 12 12 12 12 12 12 12 12 12 12 12	;o,   ;o,	SIS OF BEARIN E SE <sup>1</sup> 4 OF SECT B.&M. WHICH OBAL POSITIO	GS IS THE EAS TON 22, T9S, I I IS TAKEN FRO DNING SATELL	R21E, Om Ite
\$78°C	r=258.119	72° 962.61' Hole)			A3232838 A12383811 A12383811 EXISTINAL EXIST N.H.	26.8 ARU 26.8 A	1.2.2.1. ABO TABLE OF THE POPULATION OF THE POPU	185 187 1971 1971	;o,   ;o,	SIS OF BEARIN E SE <sup>1</sup> 4 OF SECT B.&M. WHICH OBAL POSITIO	GS IS THE EAS TON 22, T9S, I I IS TAKEN FRO DNING SATELL	R21E, Om Ite
\$78°C	/=258.119 07'11"W - 0 Bottom F	72° 962.61' Hole)			4.37.28.88. 1.7.23.27.1 1.7.23.7.17. 1.64.17.14.17.1 1.64.17.17.17.17.17.17.17.17.17.17.17.17.17.	19. KBU 9.7 19. KBU 26.8 19.3801 68.33 19.3801 68.33 17.19568.4 17.19568.4	1.221 1.221 1.221 1.221 1.221	(S) 1848 1848 1911 1911	BA: TH S.L. GLI OB	SIS OF BEARIN E SE \$\frac{1}{4}\$ OF SECT B.&M. WHICH OBAL POSITIONS TO SERVATIONS TO	GS IS THE EAS TON 22, T9S, I I IS TAKEN FRO DNING SATELL	R21E, OM ITE 103'36"E.
\$78°C	/=258.119 07'11"W - 0 Bottom F	72° 962.61' Hole)			4.32328°3 4.3232811 1.7232.1511 1.723.1511 1.724.151 1.725.1511 1.	1.20 1.20 1.20 1.20 1.20 1.20 1.20 1.20	1.2.2.1. KBI 0.	(S) 140 121 121 121 121 121 121 121 121 121 12	;o,   ;o,	SIS OF BEARIN E SE <sup>1</sup> 4 OF SECT B.&M. WHICH OBAL POSITIO	GS IS THE EAS TON 22, T9S, I I IS TAKEN FRO DNING SATELL	R21E, Om ITE
\$78°C	7=258.119 07'11"W - 0 0 Bottom F 0 Bottom F 0 Bottom F 0 Bottom F	72° 962.61' Hole) 131, W 10500°	TO ALL	Exist W.H. P. O. Exist W. N. P. O. Exist W. P. P. P. P. O. Exist W. P.	A 32328 33 A 32328 11 11 233 211 12 133 211 14 12 14 15 14 16 16 16 16 1	1.26.8 NEU. 26.8 NEU. 26.8 NEU. 1.26.8 NEU. 1.26.8 NEU. 1.26.8 NEU. 1.26.8 NEU. 1.26.8 NEU. 1.26.8 NEU. 1.26.8 NEU.	1.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2	(S)	BA: TH S.L. GLI OB	SIS OF BEARIN E SE \$\frac{1}{4}\$ OF SECT B.&M. WHICH OBAL POSITIONS TO SERVATIONS TO	GS IS THE EAS TON 22, T9S, I I IS TAKEN FRO DNING SATELL	R21E, OM ITE 103'36"E.
S78°C	7=258.119 07'11"W - 00 Bottom F 00 Bottom F 00 Bottom F 00 Bottom F 00 Bottom F 00 Bottom F	72° 962.61' Hole)  131 N 10500° 144.10500°	Onshore,	Exist W.H. P. O. Exist W. N. P. O. Exist W. P. P. P. P. O. Exist W. P.	A.3.23.8.3. A.3.23.8.11. A.1.23.2.12. A.M.H.J.S.A. Kerist W.H.J.S.A. Kerist W.H.J.S.A.	1.9.268.3.29924° 1.7.85.29924° 1.7.85.29924°	1.2.2.1. KBU 1.2.2.2.1. KBU 1.2.2.1. KBU 1.2.2.1. KBU 1.2.2.1. KBU 1.2.2.1. KBU 1.2	(S) 14AS 122 122 123 123 123 123 123 123 123 123	BA: TH S.L. GLI OB	SIS OF BEARIN E SE 4 OF SECT B.&M. WHICH OBAL POSITIO SERVATIONS T	GS IS THE EAS TON 22, T9S, I H IS TAKEN FRO DNING SATELL TO BEAR NOOS	R21E, OM ITE 103'36"E.
\$78°( (To	=258.119 07'11"W -0 0 Bottom F 0 Bottom F	72° 962.61' Hole)  1317  10500°  8 Gas Conver, Color	Onshore, rado 80202	Exist W.H. P. O. Exist W. N. P. O. Exist W. P. P. P. P. O. Exist W. P.	A3232838 A3232838 A12383811 EXISTINAL EXIST WHAT		1.2.2.1. 1.2.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.1. 1.2.2.2.1. 1.2.2.2.1. 1.2.2.2.1. 1.2.2.2.1. 1.2.2.2.1. 1.2.2.2.1. 1.2.2.2.2	J	BASS BAST THE S.L. GL. OB	SIS OF BEARIN E SE \$\frac{1}{4}\$ OF SECT B.&M. WHICH OBAL POSITIO SERVATIONS T	GS IS THE EAS TON 22, T9S, I H IS TAKEN FRO DNING SATELL TO BEAR NOOG	R21E, OM ITE 103'36"E.
\$78°( (To	7=258.119 07'11"W - 00 Bottom F 00 Bottom F 00 Bottom F 00 Bottom F 00 Bottom F 00 Bottom F	72° 962.61' Hole)  1317  10500°  8 Gas Conver, Color	Onshore, rado 80202	Exist W.H. P. O. Exist W. N. P. O. Exist W. P. P. P. P. O. Exist W. P.	4.32328.3 4.32328.3 1.7233.2 1	19. 19. 19. 19. 19. 19. 19. 19. 19. 19.	1.221. KBI 9. KB	Ţ <u>⊤ı</u>	ACS BARTH S.L. GLUOB	SIS OF BEARIN E SE \$\frac{1}{4}\$ OF SECT B.&M. WHICH OBAL POSITIO SERVATIONS T	GS IS THE EASTON 22, T9S, I H IS TAKEN FROMING SATELL TO BEAR NOOS	R21E, DM ITE P03'36"E.
Kerr-Mc(10991	=258.119 07'11"W -0 0 Bottom F 0 Bottom F	72° 962.61' Hole)  1317  W 10500' A4.10500' NBU 9	Onshore, rado 80202 21-221	Exist W.H. P. O. Exist W. N. P. O. Exist W. P. P. P. P. O. Exist W. P.	4.32328.38 4.3232.571 2.1233.7571 1.1233.7		ABOUTER OF THE PROPERTY OF THE	Ţ <u>⊤ı</u>	MBERL ENGINEERIN	SIS OF BEARIN E SE \$\frac{1}{4}\$ OF SECT B.&M. WHICH OBAL POSITIO SERVATIONS T	GS IS THE EASTON 22, T9S, I H IS TAKEN FROM THE STAKEN TO BEAR NOOSE TO BEAR NO	R21E, DM ITE 103'36"E. 35) 789-1365 G, INC.
Kerr-McC 1099 1: WELL WELLS - I	Gee Oil 8th Street - DLL PAD INT NBU 921-22	& Gas Conver, Color ITCS, NBU 9:	Onshore, rado 80202 21-221 CE PLAT 921-2211BS,	Exist W.H. P. O. Exist W. N. P. O. Exist W. P. P. P. P. O. Exist W. P.	ist with	609		TI	MBERL ENGINEERIN	SIS OF BEARIN E SE \$\frac{1}{4}\$ OF SECT B.&M. WHICH OBAL POSITIO SERVATIONS  \$\frac{1}{4}\$  S C A L  INE IG & LAND 300 WEST - VER	GS IS THE EASTON 22, T9S, I H IS TAKEN FROMING SATELL FO BEAR NOOS	R21E, DM ITE P03'36"E. 9 35) 789-1365 G, INC. D78
Kerr-McC 1099 1: WELL WELLS - I	Gee Oil 8th Street - D L PAD INT NBU 921-22 1 921-22 J4CS	& Gas Conver, Color ITCS, NBU 9:105, NBU 9:105, NBU 9:105, NBU 9:105, NBU 9:105, NBU 9:21-105, NBU 9	Onshore, rado 80202 21-221 CE PLAT 921-2211BS, 22J1BS,	Exist W.H. P. O. Exist W. N. P. O. Exist W. P. P. P. P. O. Exist W. P.	CONSU			DATE 7-19-	MBERL NGINEERIN 209 NORTH	SIS OF BEARIN E SE \$\frac{1}{4}\$ OF SECT B.&M. WHICH OBAL POSITIO SERVATIONS T	GS IS THE EASTON 22, T9S, I H IS TAKEN FROMING SATELL FO BEAR NOOS	R21E, DM ITE P03'36"E. 9 35) 789-1365 G, INC. D78
Kerr-McC 1099 1: WELL WELLS - I NBU NBU 9:	Gee Oil 8th Street - D L PAD INT NBU 921-22 1921-224CS	72° 962.61' Hole)  & Gas Conver, Color NBU 9: ERFERENCE 11CS, NBU 5, NBU 921- 8 NBU 921-	Onshore, rado 80202 21-221 CE PLAT 921-2211BS, 22J1BS, 1-22J4AS	Exist W.H. P. O. Exist W. N. P. O. Exist W. P. P. P. P. O. Exist W. P.	CONSU 2155 Nort Sheridan	LTING, LLC th Main Stream WY 82801	Cet	TI E DATE 7-19- DATE	BAL TH S.L. GLE OB MBERL ENGINEERIN 209 NORTH E SURVEYED:	SIS OF BEARIN E SE \$\frac{1}{4}\$ OF SECT B.&M. WHICH OBAL POSITIO SERVATIONS  \$\frac{1}{4}\$  S C A L  INE IG & LAND 300 WEST - VER	GS IS THE EASTON 22, T9S, I H IS TAKEN FROMING SATELL TO BEAR NOOS E E (4 SURVEYINC RNAL, UTAH 840 BY: W.W	R21E, DM ITE P03'36"E. 9 35) 789-1365 G, INC. D78
Kerr-McC 1099 1: WELL WELLS - I NBU 9 LOCA	Gee Oil 8th Street - D L PAD INT NBU 921-22 1 921-22 J4CS	8 Gas Conver, Color NBU 9: ERFERENCE ITCS, NBU 9: TION 22, TO TION	Onshore, rado 80202 21-221 CE PLAT 921-2211BS, 22J1BS, 1-22J4AS 95, R21E,	Exist W.H. P. O. Exist W. N. P. O. Exist W. P. P. P. P. O. Exist W. P.	CONSU 2155 Norr Sheridar Phone 3	LTING, LLC th Main Stre	Cet	DATE 7-19-DATE 8-25-	BAL TH S.L. GLE OB MBERL ENGINEERIN 209 NORTH E SURVEYED:	SIS OF BEARIN E SE \$\frac{1}{4}\$ OF SECT B.&M. WHICH OBAL POSITIO SERVATIONS T  SERVATIONS T  S C A L  INE IG & LAND 300 WEST - VER SURVEYED B	GS IS THE EASTON 22, T9S, I H IS TAKEN FROMING SATELL TO BEAR NOOS E E (4 SURVEYINC RNAL, UTAH 840 BY: W.W C.T.C vised:	R21E, DM ITE 103'36"E. 35) 789-1365 G, INC.







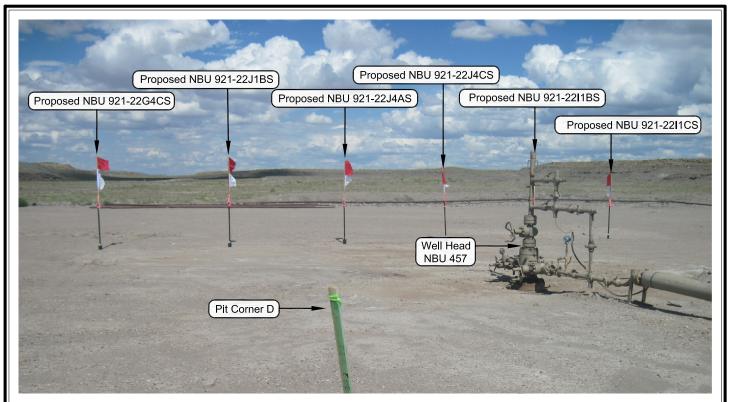


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

**CAMERA ANGLE: NORTHEASTERLY** 



PHOTO VIEW: FROM EXISTING ACCESS ROAD

**CAMERA ANGLE: SOUTHEASTERLY** 

# Kerr-McGee Oil & Gas Onshore, LP

1099 18th Street - Denver, Colorado 80202

# WELL PAD - NBU 921-221

**LOCATION PHOTOS** NBU 921-2211CS, NBU 921-2211BS, NBU 921-22J4CS, NBU 921-22J1BS, NBU 921-22G4CS & NBU 921-22J4AS LOCATED IN SECTION 22, T9S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH.



#### CONSULTING, LLC 2155 North Main Street Sheridan WY 82801 Phone 307-674-0609 Fax 307-674-0182

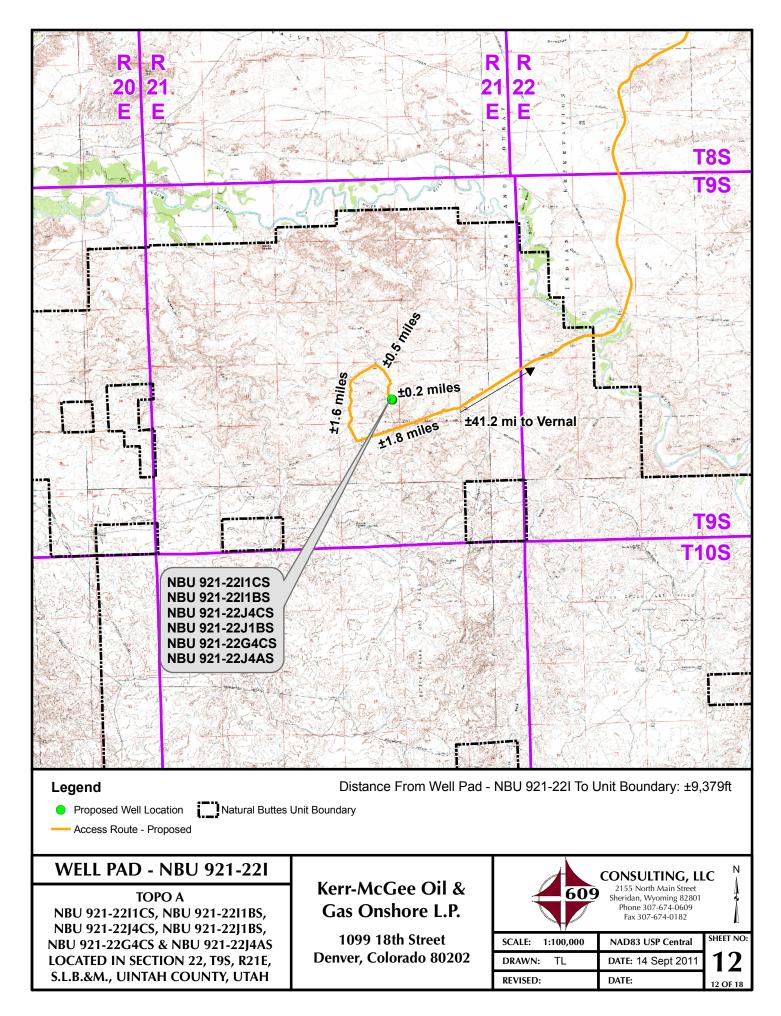
### TIMBERLINE

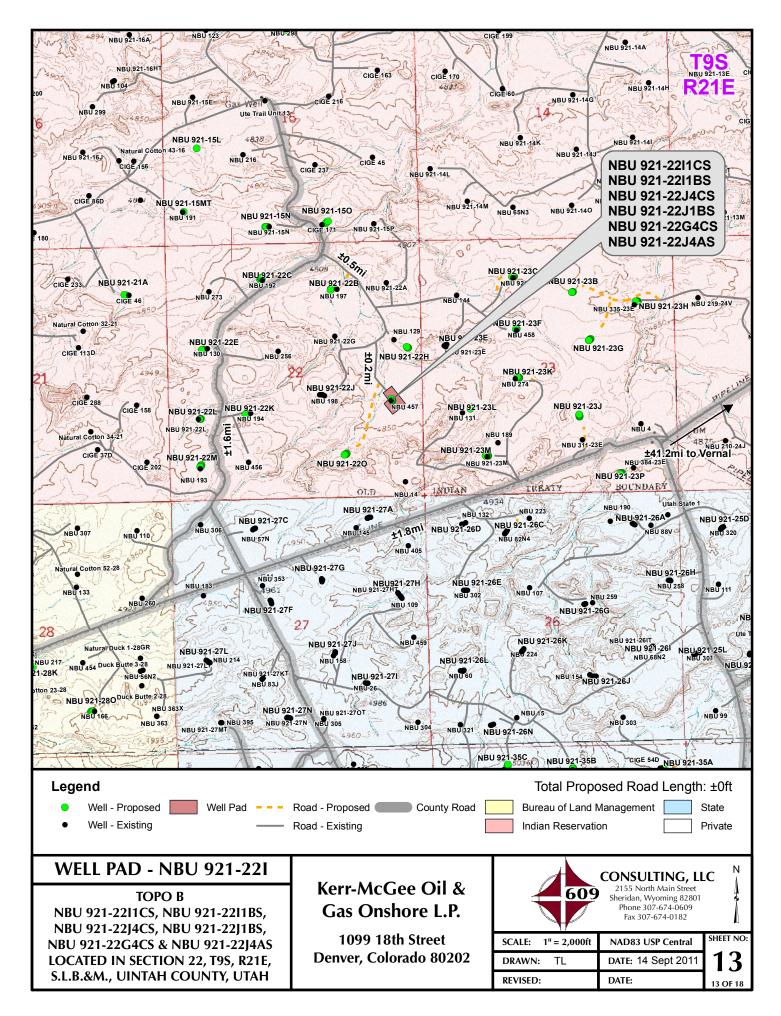
(435) 789-1365

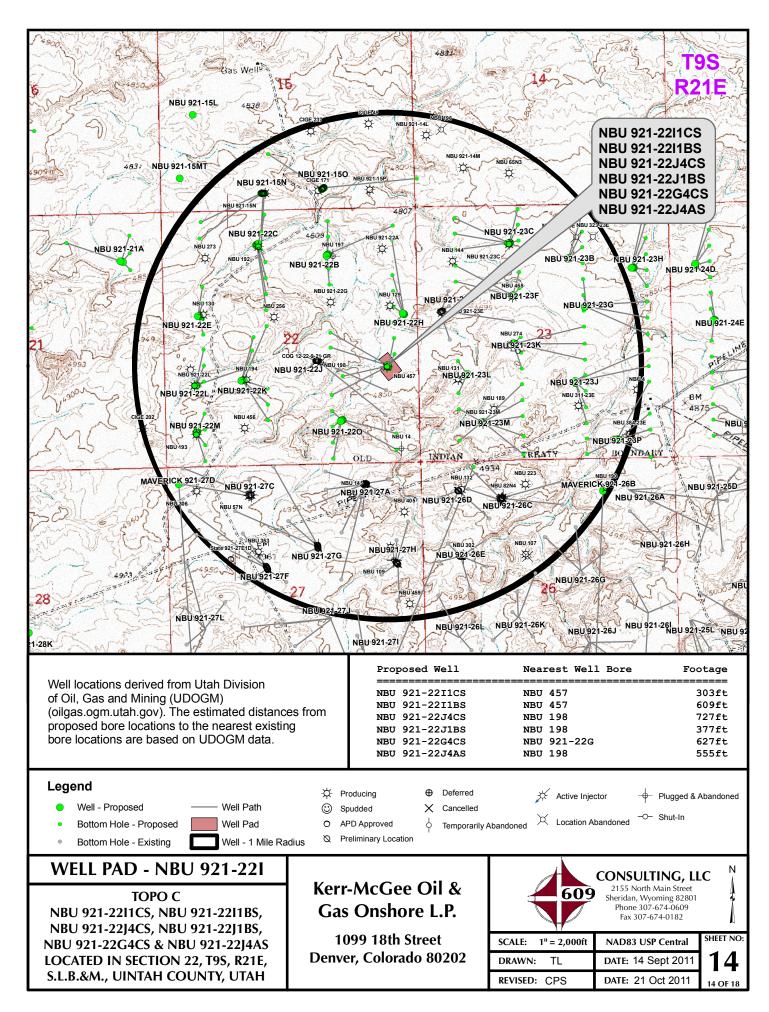
11 OF 18

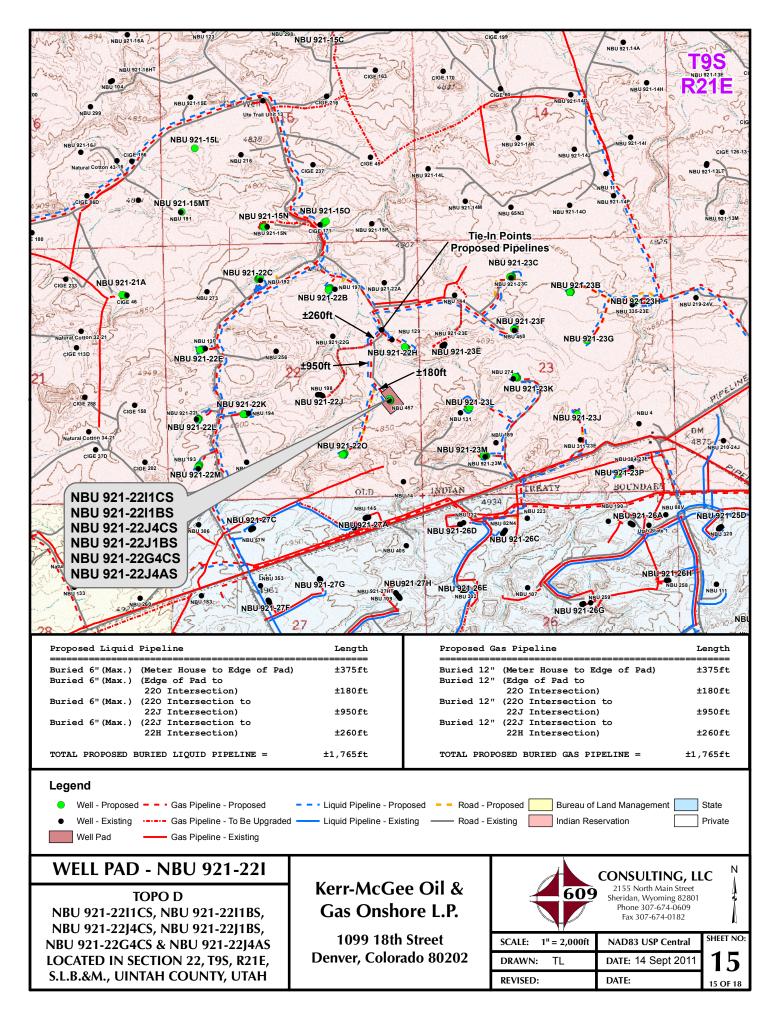
ENGINEERING & LAND SURVEYING, INC. 209 NORTH 300 WEST - VERNAL, UTAH 84078

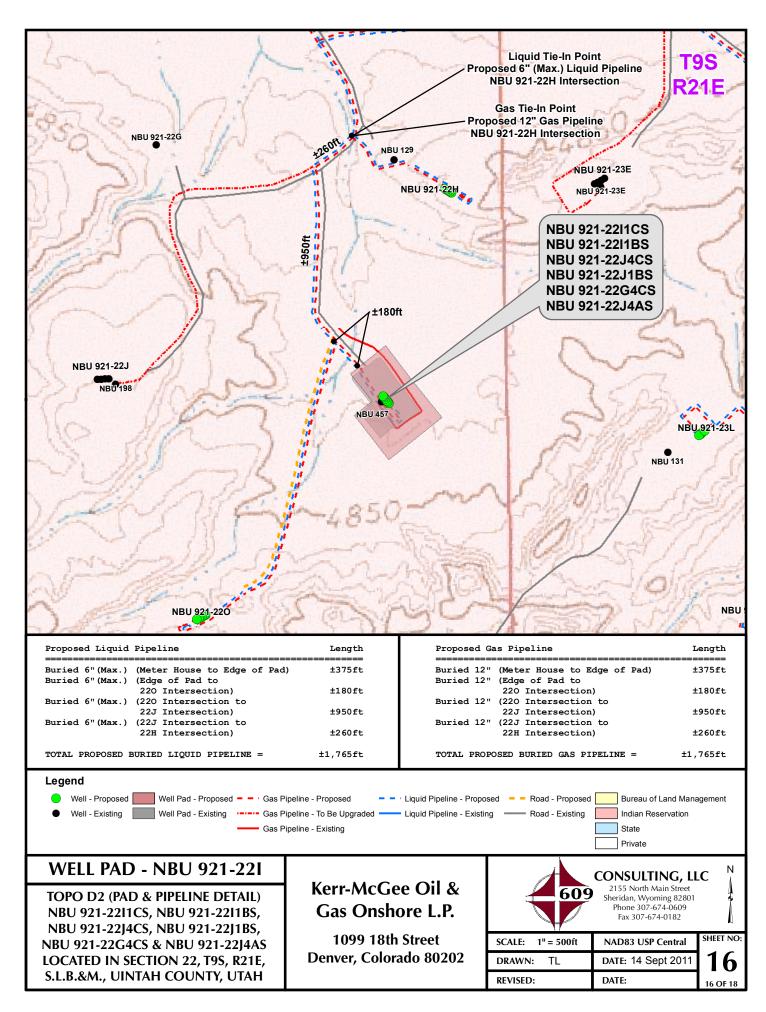
DATE PHOTOS TAKEN: 7-19-11	PHOTOS TAKEN BY: W.W	SHEET NO:
DATE DRAWN: 8-25-11	DRAWN BY: C.T.C	11
Date Last Revised: 10-21-1	11 OF 18	

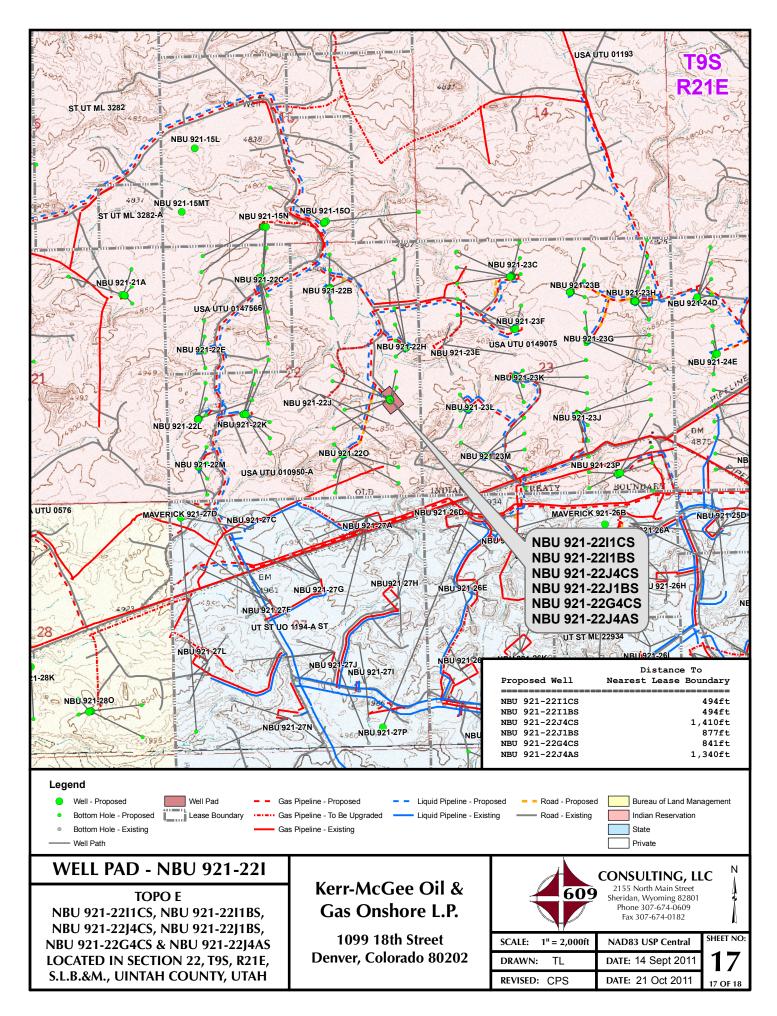












Kerr-McGee Oil & Gas Onshore, LP WELL PAD – NBU 921-22I WELLS – NBU 921-22I1CS, NBU 921-22I1BS, NBU 921-22J4CS, NBU 921-22J1BS, NBU 921-22G4CS & NBU 921-22J4AS Section 22, T9S, R21E, S.L.B.&M.

From the intersection of U.S. Highway 40 and 500 East street in Vernal, Utah, proceed in an easterly then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 17.7 miles to a Class D County Road to the southwest. Exit right and proceed in a southwesterly direction along the Class D County Road approximately 1.8 miles to a second Class D County Road approximately 1.6 miles to a service road to the southeast. Exit right and proceed in a southeasterly, then southwesterly direction along the service road approximately 0.5 miles to a second service road to the south. Exit left and proceed in a southerly direction along the second service road approximately 0.2 miles to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 45.3 miles in a southerly direction.

**SHEET 18 OF 18** 

API Well Number: 4304 Project: 60TOAHO UTM (feet), NAD27, Zone 12N

Scientific Drilling

12000

-750

750

Vertical Section at 288.95° (1500 ft/in)

1500

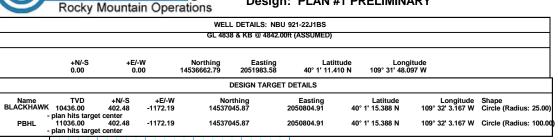
2250

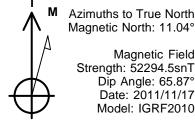
Site: NBU 921-221 PAD Well: NBU 921-22J1BS

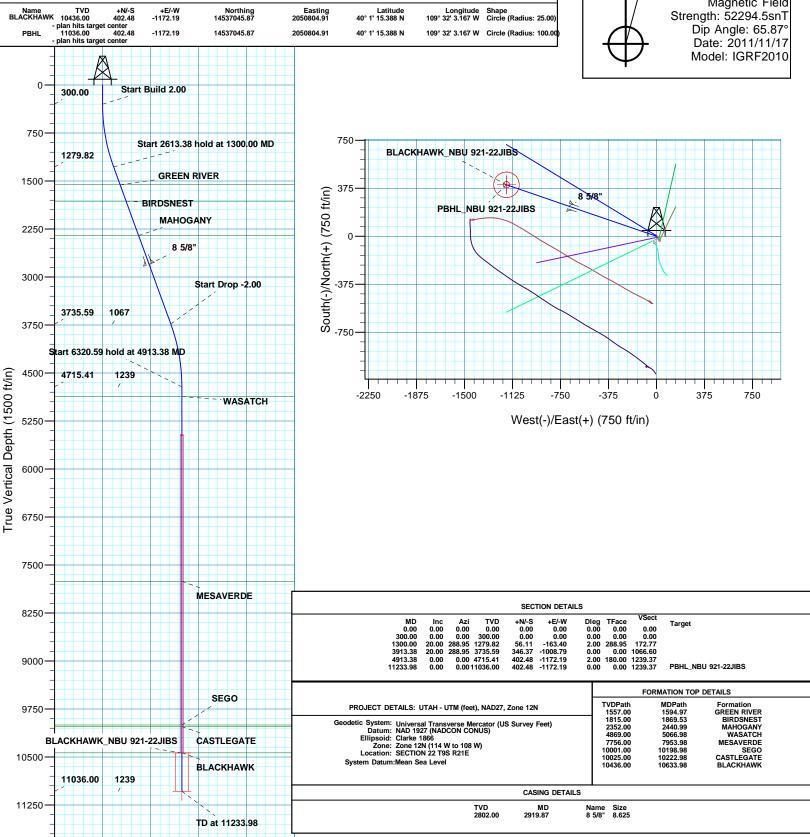
Wellbore: OH

Design: PLAN #1 PRELIMINARY











# **US ROCKIES REGION PLANNING**

UTAH - UTM (feet), NAD27, Zone 12N NBU 921-22I PAD NBU 921-22J1BS

OH

Plan: PLAN #1 PRELIMINARY

# **Standard Planning Report**

18 November, 2011





# **SDI**Planning Report



Database: EDM5000-RobertS-Local

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 921-22I PAD

 Well:
 NBU 921-22J1BS

Wellbore: OH

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well NBU 921-22J1BS

GL 4838 & KB @ 4842.00ft (ASSUMED) GL 4838 & KB @ 4842.00ft (ASSUMED)

True

Minimum Curvature

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System: Universal Transverse Mercator (US Survey Feet)

Geo Datum: NAD 1927 (NADCON CONUS)

Map Zone: Zone 12N (114 W to 108 W)

Mean Sea Level

Site NBU 921-22I PAD, SECTION 22 T9S R21E

Northing: 14,536,670.34 usft Site Position: Latitude: 40° 1' 11.485 N From: Lat/Long Easting: 2,051,977.29 usft Longitude: 109° 31' 48.176 W **Position Uncertainty:** 0.00 ft Slot Radius: **Grid Convergence:** 0.95 13.200 in

System Datum:

Well NBU 921-22J1BS, 2005 FSL 644 FEL

 Well Position
 +N/-S
 -7.65 ft
 Northing:
 14,536,662.79 usft
 Latitude:
 40° 1' 11.410 N

 +E/-W
 6.16 ft
 Easting:
 2,051,983.58 usft
 Longitude:
 109° 31' 48.097 W

Position Uncertainty 0.00 ft Wellhead Elevation: Ground Level: 4,838.00 ft

Wellbore ОН Magnetics **Model Name** Sample Date Declination Dip Angle Field Strength (nT) (°) (°) IGRF2010 2011/11/17 11.04 65.87 52.295

PLAN #1 PRELIMINARY Design Audit Notes: Version: Phase: PLAN Tie On Depth: 0.00 Vertical Section: Depth From (TVD) +N/-S +E/-W Direction (ft) (ft) (ft) (°) 0.00 0.00 0.00 288.95

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	20.00	288.95	1,279.82	56.11	-163.40	2.00	2.00	0.00	288.95	
3,913.38	20.00	288.95	3,735.59	346.37	-1,008.79	0.00	0.00	0.00	0.00	
4,913.38	0.00	0.00	4,715.41	402.48	-1,172.19	2.00	-2.00	0.00	180.00	
11,233.98	0.00	0.00	11,036.00	402.48	-1,172.19	0.00	0.00	0.00	0.00 F	BHL_NBU 921-22JI



# **SDI**Planning Report



Database: EDM5000-RobertS-Local

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N

 Project:
 UTAH - UTM (feet),

 Site:
 NBU 921-22I PAD

 Well:
 NBU 921-22J1BS

Wellbore: OH

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well NBU 921-22J1BS

GL 4838 & KB @ 4842.00ft (ASSUMED) GL 4838 & KB @ 4842.00ft (ASSUMED)

True

gn:	PLAN#1 FRE	.Envin v d C i							
nned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build	2.00								
400.00	2.00	288.95	399.98	0.57	-1.65	1.75	2.00	2.00	0.00
500.00	4.00	288.95	499.84	2.27	-6.60	6.98	2.00	2.00	0.00
600.00	6.00	288.95	599.45	5.10	-14.84	15.69	2.00	2.00	0.00
700.00	8.00	288.95	698.70	9.05	-26.37	27.88	2.00	2.00	0.00
800.00	10.00	288.95	797.47	14.13	-41.16	43.52	2.00	2.00	0.00
900.00	12.00	288.95	895.62	20.33	-59.21	62.60	2.00	2.00	0.00
1,000.00	14.00	288.95	993.06	27.63	-80.48	85.10	2.00	2.00	0.00
1,100.00	16.00	288.95	1,089.64	36.04	-104.96	110.98	2.00	2.00	0.00
1,200.00	18.00	288.95	1,185.27	45.53	-132.61	140.21	2.00	2.00	0.00
1,300.00	20.00	288.95	1,279.82	56.11	-163.40	172.77	2.00	2.00	0.00
Start 2613.	38 hold at 1300.00	D MD							
1,400.00	20.00	288.95	1,373.78	67.21	-195.75	206.97	0.00	0.00	0.00
4.500.00	00.00	000.05	4 407 75	70.00	000.40	044.47	0.00	0.00	0.00
1,500.00	20.00	288.95	1,467.75	78.32	-228.10	241.17	0.00	0.00	0.00
1,594.97	20.00	288.95	1,557.00	88.87	-258.82	273.65	0.00	0.00	0.00
GREEN RIV									
1,600.00	20.00	288.95	1,561.72	89.43	-260.45	275.37	0.00	0.00	0.00
1,700.00	20.00	288.95	1,655.69	100.53	-292.80	309.58	0.00	0.00	0.00
1,800.00	20.00	288.95	1,749.66	111.64	-325.15	343.78	0.00	0.00	0.00
1,869.53	20.00	288.95	1,815.00	119.36	-347.64	367.56	0.00	0.00	0.00
BIRDSNES		200.00	1,010.00	110.00	017.01	007.00	0.00	0.00	0.00
1,900.00	20.00	200.05	1,843.63	100.75	-357.49	277.00	0.00	0.00	0.00
,	20.00	288.95	1,937.60	122.75		377.98 412.18		0.00	
2,000.00		288.95	,	133.85	-389.84		0.00		0.00
2,100.00	20.00	288.95	2,031.57	144.96	-422.19	446.38	0.00	0.00	0.00
2,200.00	20.00	288.95	2,125.54	156.07	-454.54	480.59	0.00	0.00	0.00
2,300.00	20.00	288.95	2,219.51	167.17	-486.89	514.79	0.00	0.00	0.00
2,400.00	20.00	288.95	2,313.48	178.28	-519.24	548.99	0.00	0.00	0.00
2,440.99	20.00	288.95	2,352.00	182.83	-532.50	563.01	0.00	0.00	0.00
MAHOGAN	ΙΥ								
2,500.00	20.00	288.95	2,407.45	189.39	-551.58	583.19	0.00	0.00	0.00
2,600.00	20.00	288.95	2,501.42	200.50	-583.93	617.39	0.00	0.00	0.00
2,700.00	20.00	288.95	2,595.39	211.60	-616.28	651.60	0.00	0.00	0.00
2,800.00	20.00	288.95	2,689.35	222.71	-648.63	685.80	0.00	0.00	0.00
2,900.00	20.00	288.95	2,783.32	233.82	-680.98	720.00	0.00	0.00	0.00
2,919.87	20.00	288.95	2,802.00	236.02	-687.41	726.80	0.00	0.00	0.00
8 5/8"									
3,000.00	20.00	288.95	2,877.29	244.92	-713.33	754.20	0.00	0.00	0.00
3,100.00	20.00	288.95	2,971.26	256.03	-745.67	788.40	0.00	0.00	0.00
3,200.00	20.00	288.95	3,065.23	267.14	-778.02	822.61	0.00	0.00	0.00
3,300.00	20.00	288.95	3,159.20	278.24	-810.37	856.81	0.00	0.00	0.00
3,400.00	20.00	288.95	3,253.17	289.35	-842.72	891.01	0.00	0.00	0.00
3,500.00	20.00	288.95	3,253.17	300.46	-042.72 -875.07	925.21	0.00	0.00	0.00
3,600.00	20.00	288.95	3,441.11	311.56	-907.42	959.41	0.00	0.00	0.00
3,700.00	20.00	288.95	3,535.08	322.67	-939.76	993.62	0.00	0.00	0.00
3,800.00	20.00	288.95	3,629.05	333.78	-972.11	1,027.82	0.00	0.00	0.00
3,900.00	20.00	288.95	3,723.02	344.88	-1,004.46	1,062.02	0.00	0.00	0.00
3,913.38	20.00	288.95	3,735.59	346.37	-1,008.79	1,066.60	0.00	0.00	0.00
Start Drop	-2.00								
		000.05	00:=:0	0====	4.00= 0.5	4.00 : 55			
4,000.00	18.27	288.95	3,817.42	355.59	-1,035.64	1,094.99	2.00	-2.00	0.00



# **SDI**Planning Report



Database: EDM5000-RobertS-Local

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 921-22I PAD

 Well:
 NBU 921-22J1BS

Wellbore: OH

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well NBU 921-22J1BS

GL 4838 & KB @ 4842.00ft (ASSUMED) GL 4838 & KB @ 4842.00ft (ASSUMED)

True

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,100.00	16.27	288.95	3,912.91	365.23	-1,063.71	1,124.67	2.00	-2.00	0.00
4,200.00	14.27	288.95	4,009.37	373.78	-1,088.62	1,151.00	2.00	-2.00	0.00
4,300.00	12.27	288.95	4,106.70	381.23	-1,110.32	1,173.95	2.00	-2.00	0.00
4,400.00	10.27	288.95	4,204.77	387.58	-1,128.80	1,193.49	2.00	-2.00	0.00
4,500.00	8.27	288.95	4,303.46	392.81	-1,144.03	1,209.59	2.00	-2.00	0.00
4,600.00	6.27	288.95	4,402.65	396.92	-1,156.00	1,222.24	2.00	-2.00	0.00
4,700.00	4.27	288.95	4,502.22	399.90	-1,164.68	1,231.42	2.00	-2.00	0.00
4,800.00	2.27	288.95	4,602.05	401.75	-1,170.07	1,237.12	2.00	-2.00	0.00
4,900.00	0.27	288.95	4,702.02	402.47	-1,172.16	1,239.33	2.00	-2.00	0.00
4,913.38	0.00	0.00	4,715.41	402.48	-1,172.19	1,239.37	2.00	-2.00	0.00
<b>Start 6320.5</b> 5,000.00 5,066.98	9 hold at 4913.38 0.00 0.00	0.00 0.00	4,802.02 4,869.00	402.48 402.48	-1,172.19 -1,172.19	1,239.37 1,239.37	0.00 0.00	0.00 0.00	0.00 0.00
<b>WASATCH</b> 5,100.00	0.00	0.00	4,902.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
5,200.00	0.00	0.00	5,002.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
5,300.00	0.00	0.00	5,102.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
5,400.00	0.00	0.00	5,202.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
5,500.00	0.00	0.00	5,302.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
5,600.00	0.00	0.00	5,402.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
5,700.00 5,800.00	0.00	0.00	5,502.02 5,602.02	402.48 402.48	-1,172.19 -1,172.19	1,239.37 1,239.37	0.00 0.00	0.00	0.00
5,900.00	0.00	0.00	5,702.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
6,000.00	0.00	0.00	5,802.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
6,100.00	0.00	0.00	5,902.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
6,200.00	0.00	0.00	6,002.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
6,300.00		0.00	6,102.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
6,400.00	0.00	0.00	6,202.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
6,500.00	0.00	0.00	6,302.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
6,600.00	0.00	0.00	6,402.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
6,700.00	0.00	0.00	6,502.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
6,800.00 6,900.00	0.00 0.00	0.00 0.00	6,602.02 6,702.02	402.48 402.48	-1,172.19 -1,172.19 -1,172.19	1,239.37 1,239.37 1,239.37	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
7,000.00	0.00	0.00	6,802.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
7,100.00	0.00	0.00	6,902.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
7,200.00	0.00	0.00	7,002.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
7,300.00	0.00	0.00	7,102.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
7,400.00	0.00	0.00	7,202.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
7,500.00	0.00	0.00	7,302.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
7,600.00	0.00	0.00	7,402.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
7,700.00	0.00	0.00	7,502.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
7,800.00	0.00	0.00	7,602.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
7,900.00	0.00	0.00	7,702.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
7,953.98 <b>MESAVERD</b>	0.00	0.00	7,756.00	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
8,000.00	0.00	0.00	7,802.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
8,100.00	0.00	0.00	7,902.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
8,200.00	0.00	0.00	8,002.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
8,300.00	0.00	0.00	8,102.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
8,400.00	0.00	0.00	8,202.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
8,500.00	0.00	0.00	8,302.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
8,600.00	0.00	0.00	8,402.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
8,700.00	0.00	0.00	8,502.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00



# **SDI**Planning Report



Database: EDM Company: US

Project:

EDM5000-RobertS-Local

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 921-22I PAD

 Well:
 NBU 921-22J1BS

Wellbore: OH

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well NBU 921-22J1BS

GL 4838 & KB @ 4842.00ft (ASSUMED) GL 4838 & KB @ 4842.00ft (ASSUMED)

True

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,800.00	0.00	0.00	8,602.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
8,900.00	0.00	0.00	8,702.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
9,000.00	0.00	0.00	8,802.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
9,100.00	0.00	0.00	8,902.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
9,200.00	0.00	0.00	9,002.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
9,300.00	0.00	0.00	9,102.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
9,400.00	0.00	0.00	9,202.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
9,500.00	0.00	0.00	9,302.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
9,600.00	0.00	0.00	9,402.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
9,700.00	0.00	0.00	9,502.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
9,800.00	0.00	0.00	9,602.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
9,900.00	0.00	0.00	9,702.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
10,000.00	0.00	0.00	9,802.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
10,100.00	0.00	0.00	9,902.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
10,198.98	0.00	0.00	10,001.00	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
SEGO									
10,200.00	0.00	0.00	10,002.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
10,222.98	0.00	0.00	10,025.00	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
CASTLEGAT									
10,300.00	0.00	0.00	10,102.02	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
10,400.00	0.00	0.00	10,202.03	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
10,500.00	0.00	0.00	10,302.03	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
10,600.00	0.00	0.00	10,402.03	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
10,633.98	0.00	0.00	10,436.00	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
	K - BLACKHAW								
10,700.00	0.00	0.00	10,502.03	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
10,800.00	0.00	0.00	10,602.03	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
10,900.00	0.00	0.00	10,702.03	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
11,000.00	0.00	0.00	10,802.03	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
11,100.00	0.00	0.00	10,902.03	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
11,200.00	0.00	0.00	11,002.03	402.48	-1,172.19	1,239.37	0.00	0.00	0.00
11,233.98	0.00	0.00	11,036.00	402.48	-1,172.19	1,239.37	0.00	0.00	0.00

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BLACKHAWK_NBU 921 - plan hits target cent - Circle (radius 25.00		0.00	10,436.00	402.48	-1,172.19	14,537,045.87	2,050,804.90	40° 1' 15.388 N	109° 32' 3.167 W
PBHL_NBU 921-22JIBS - plan hits target cent - Circle (radius 100.0		0.00	11,036.00	402.48	-1,172.19	14,537,045.87	2,050,804.90	40° 1' 15.388 N	109° 32' 3.167 W



# **SDI**Planning Report



Database: EDM5000-RobertS-Local Company: US ROCKIES REGION P

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 921-22I PAD

 Well:
 NBU 921-22J1BS

Wellbore: OH

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well NBU 921-22J1BS

GL 4838 & KB @ 4842.00ft (ASSUMED) GL 4838 & KB @ 4842.00ft (ASSUMED)

True

Casing Points					
	Measured	Vertical		Casing	Hole
	Depth	Depth		Diameter	Diameter
	(ft)	(ft)	Name	(in)	(in)
	2,919.87	2,802.00 8 5/8		8.625	11.000

Formations							
	Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
	1,594.97	1,557.00	GREEN RIVER				
	1,869.53	1,815.00	BIRDSNEST				
	2,440.99	2,352.00	MAHOGANY				
	5,066.98	4,869.00	WASATCH				
	7,953.98	7,756.00	MESAVERDE				
	10,198.98	10,001.00	SEGO				
	10,222.98	10,025.00	CASTLEGATE				
	10,633.98	10,436.00	BLACKHAWK				

Plan Annotations				
Measured	Vertical	Local Coor	dinates	
Depth (ft)	Depth (ft)	+N/-S	+E/-W	Comment
(It)	(11)	(ft)	(ft)	Comment
300.00	300.00	0.00	0.00	Start Build 2.00
1,300.00	1,279.82	56.11	-163.40	Start 2613.38 hold at 1300.00 MD
3,913.38	3,735.59	346.37	-1,008.79	Start Drop -2.00
4,913.38	4,715.41	402.48	-1,172.19	Start 6320.59 hold at 4913.38 MD
11,233.98	11,036.00	402.48	-1,172.19	TD at 11233.98

NBU 921-22G4CS/ 921-22I1BS/ 921-22I1CS NBU 921-22J1BS/ 921-22J4AS/ 921-22J4CS Kerr-McGee Oil Gas Onshore, L.P. NBU 921-22I Pad Surface Use Plan of Operations 1 of 11

# Kerr-McGee Oil & Gas Onshore. L.P.

# NBU 921-22I Pad

<u>API #</u>	I	NBU 921-22G4CS		
	Surface:	2013 FSL / 650 FEL	NESE	Lot
	BHL:	2569 FNL / 1818 FEL	SWNE	Lot
API#	ı	NBU 921-22I1BS		
	Surface:	1981 FSL / 626 FEL	NESE	Lot
	BHL:	2569 FSL / 494 FEL	NESE	Lot
<u>API #</u>	ı	NBU 921-22I1CS		
	Surface:	1973 FSL / 620 FEL	NESE	Lot
	BHL:	2237 FSL / 494 FEL	NESE	Lot
<u>API #</u>	<u>. I</u>	NBU 921-22J1BS		
	Surface:	2005 FSL / 644 FEL	NESE	Lot
	BHL:	2405 FSL / 1817 FEL	NWSE	Lot
<u>API #</u>	1	NBU 921-22J4CS		
	Surface:	1989 FSL / 632 FEL	NESE	Lot
	BHL:	1410 FSL / 1817 FEL	NWSE	Lot
<u>API #</u>	1	NBU 921-22J4AS		
	Surface:	1997 FSL / 638 FEL	NESE	Lot
	BHL:	1796 FSL / 1580 FEL	NWSE	Lot

This Surface Use Plan of Operations (SUPO) or 13-point plan provides site-specific information for the above-referenced wells.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

An on-site meeting was held on October 3-4, 2011. Present were:

- Bucky Secakuku (10/4/2011 only) BIA;
- · LeAllen Blackhair, Rainey Longhair Ute Indian Tribe;
- · Kelly Jo Jackson Montgomery Archeological Consultants Inc.;
- Scott Carson Smiling Lake Consulting;
- · John Slaugh, Mitch Batty Timberline Engineering & Land Surveying, Inc.;
- Laura Abrams, Charles Chase, Raleen White, Doyle Holmes, Lovel Young, Sheila Wopsock Kerr-McGee

#### A. Existing Roads:

Existing roads consist of county and improved/unimproved access roads (two-tracks). In accordance with Onshore Order #1, Kerr-McGee will, in accordance with BMPs, improve or maintain existing roads in a condition that is the same as or better than before operations began. New or reconstructed proposed access roads are discussed in Section B.

The existing roads will be maintained in a safe and usable condition. Maintenance for existing roads will continue until final abandonment and reclamation of well pads and/or other facilities, as applicable. Road maintenance will include, but is not limited to, blading, ditching, and/or culvert installation and cleanout. To ensure safe operating conditions, gravel surfacing will be performed where excessive rutting or erosion may occur. Dust control will be performed as necessary to ensure safe operating conditions.

NBU 921-22G4CS/ 921-22I1BS/ 921-22I1CS NBU 921-22J1BS/ 921-22J4AS/ 921-22J4CS Kerr-McGee Oil Gas Onshore, L.P. NBU 921-22I Pad Surface Use Plan of Operations 2 of 11

Roads, gathering lines and electrical distribution lines will occupy common disturbance corridors where possible. Where available, roadways will be used as the staging area and working space for installation of gathering lines. All disturbances located in the same corridor will overlap each other to the maximum extent possible, while maintaining safe and sound construction and installation practices. Unless otherwise approved or requested in site specific documents, in no case will the maximum disturbance widths of the access road and utility corridors exceed the widths specified in Part D of this document.

Please refer to Topo B, for existing roads.

#### B. New or Reconstructed Access Roads:

All new or reconstructed roads will be located, designed, and maintained to meet the standards of the BIA.

Each new well pad or pad expansion may require construction of a new access road and/or de-commissioning of an older road. Plans, routes, and distances for new roads and road improvements are provided in design packages, exhibits and maps for a project. Project-specific maps are submitted to depict the locations of existing, proposed, and/or decommissioned and include the locations for supporting structures, including, but not limited to, culverts, bridges, low water crossings, range infrastructure, and haul routes, as per OSO 1. Designs for cuts and fills, including spoils source and storage areas, are provided with the road designs, as necessary.

Where safety objectives can be met. As applicable, Kerr-McGee may use unimproved and/or two-track roads for lease operations, to lessen total disturbance.

Road designs will be based on the road safety requirements, traffic characteristics, environmental conditions, and the vehicles the road is intended to carry. Generally, newly constructed unpaved lease roads will be crowned and ditched with the running surfaces of the roads approximately 12-18 feet wide and a total road corridor width not to exceed 45 feet, except where noted in the road design for a specific project. Maximum grade will generally not exceed 8%. Borrow ditches will be back sloped 3:1 or less. Construction BMPs will be employed to control onsite and offsite erosion.

Where topography would direct storm water runoff to an access road or well pad, drainage ditches or other common drainage control facilities, such as V- or wing-ditches, will be constructed to divert surface water runoff. Drainage features, including culverts, will be constructed or installed prior to commencing other operations, including drilling or facilities placement. Riprap will be placed at the inlet and outlet at the culvert(s), as necessary.

Prior to construction, new access road(s) will be staked according to the requirements of OSO 1. Construction activity will not be conducted using frozen or saturated materials or during periods when significant watershed damage (e.g. rutting, extensive sheet soil erosion, formation of rills/gullies, etc.) is likely to occur. Vegetative debris will not be placed in or under fill embankments.

New road maintenance will include, but is not limited to, blading, ditching, culvert installation and cleanout, gravel surfacing where excessive rutting or erosion may occur and dust control, as necessary to ensure safe operating conditions. All vehicular traffic, personnel movement, construction/restoration operations will be confined to the approved area and to existing roadways and/or access routes.

Snow removal will be conducted on an as-needed basis to accommodate safe travel. Snow removal will occur as necessary throughout the year, as will necessary drainage ditch construction. Removed snow may be stored on permitted well pads to reduce hauling distances and/or at the aerial extent of approved disturbance boundaries to facilitate snow removal for the remainder of the season.

If a county road crossing or encroachment permit is needed, it will be obtained prior to construction.

No new access road is proposed for this well pad.

NBU 921-22G4CS/ 921-22I1BS/ 921-22I1CS NBU 921-22J1BS/ 921-22J4AS/ 921-22J4CS Kerr-McGee Oil Gas Onshore, L.P. NBU 921-22I Pad Surface Use Plan of Operations 3 of 11

#### C. Location of Existing Wells:

A) Refer to Topo Map C.

#### D. Location of Existing and/or Proposed Facilities:

This pad will expand the existing pad for the NBU 457, which is a producing gas well according to Utah Division of Oil, Gas and Mining (UDOGM) records on November 3, 2011. Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee Oil and Gas Onshore LP (Kerr-McGee).

Should the well(s) prove productive, production facilities will be installed on the disturbed portion of each well pad. A berm will be constructed completely around production components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will generally be constructed of compacted subsoil or corrugated metal, and will hold the capacity of the largest tank and have sufficient freeboard to accommodate a 25 year rainfall event. This includes pumping units. Aboveground structures constructed or installed onsite for 6 months or longer, will be painted a flat, non-reflective, earth-tone color chosen at the onsite (typically Shadow Gray). A production facility layout is provided as part of a project-specific APD, ROW or NOS submission.

#### GAS GATHERING

Please refer to Topo D2- Pad and Pipeline Detail.

The gas gathering pipeline material: Steel line pipe. Surface = Bare pipe. Buried = Coated with fusion bonded epoxy coating (or equivalent). The total gas gathering pipeline distance from the meter to the tie in point is  $\pm 1,765$ ' and the individual segments are broken up as follows:

The following segments will require a ROW to be submitted under a different cover to the Ute Indian Tribe.

 $\pm 1,765$ ' (0.3 miles) – Section 22 T9S R21E (SE/4) – On-lease UTU010950A Ute Indian Tribe surface, New 12" buried gas gathering pipeline from the meter to the NBU 921-22H pad intersection. Please refer to Topo D2 - Pad and Pipeline Detail.

#### **LIQUID GATHERING**

Please refer to Topo D2- Pad and Pipeline Detail.

The total liquid gathering pipeline distance from the separator to the tie in point is  $\pm 1,765$ ' and the individual segments are broken up as follows:

The following segments will require a ROW to be submitted under a different cover to the Ute Indian Tribe.

 $\pm 1,765$ ' (0.3 miles) – Section 22 T9S R21E (SE/4) – On-lease UTU010950A Ute Indian Tribe surface, New 6" buried liquid gathering pipeline from the separator to the NBU 921-22H Pad intersection. Please refer to Topo D2 - Pad and Pipeline Detail.

## **Pipeline Gathering Construction**

Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee. Gas gathering pipeline(s,) gas lift, or liquids pipelines may be constructed to lie on the surface or be buried. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. The area of disturbance during construction from the edge of road or well pad will typically be 30' in width. Where pipelines run cross country, the width of disturbance will typically be 45 ft for buried lines and 30 ft for surface lines. In addition, Kerr-McGee requests for a permanent 30' disturbance width that will be maintained for the portion adjacent to the road. The need for the 30' permanent disturbance width is for maintenance and repairs. Cross country permanent disturbance width also are required to be 30ft.

NBU 921-22G4CS/ 921-22I1BS/ 921-22I1CS NBU 921-22J1BS/ 921-22J4AS/ 921-22J4CS Kerr-McGee Oil Gas Onshore, L.P. NBU 921-22I Pad Surface Use Plan of Operations 4 of 11

Above-ground installation will generally not require clearing of vegetation or blading of the surface, except where safety considerations necessitate earthwork. In some surface pipeline installation instances pipe cannot be constructed where it will lay. In these cases where an above-ground pipeline is constructed parallel and adjacent to a road, it will be welded/fused on the road and then lifted from the road to the pipeline route. In other cases where a pipeline route is not parallel and adjacent to a road (cross-country between sites), it will be welded/fused in place at a well pad, access road, or designated work area and pulled between connection locations with a suitable piece of equipment.

Buried pipelines will generally be installed parallel and adjacent to existing and/or newly constructed roads and within the permitted disturbance corridor. Buried pipelines may vary from 2 inches (typically fuel gas lines) to 24 inches (typically transportation lines) in diameter, but 6 to 16 inches is typical for a buried gas line. The diameter of liquids pipelines may vary from 2 inches to 12 inches, but 6 inches is the typical diameter. Gas lift lines may vary from 2 to 12 inches in diameter, but 6-inch diameter pipes are generally used for gas lift. If two or more pipelines are present (gas gathering, gas lift, and fluids), they will share a common trench where possible.

Typically, to install a buried pipeline, topsoil will be removed, windrowed and placed on the non-working side of the route for later reclamation. Because working room is limited, the spoil may be spread out across the working side and construction will take place on the spoil. The working side of the corridor will be used for pipe stringing, bending, welding and equipment travel. Small areas on the working side displaying ruts or uneven ground will be groomed to facilitate the safe passage of equipment. After the pipelines are installed, spoil will be placed back into the trench, and the topsoil will be redistributed over the disturbed corridor prior to final reclamation. Typical depth of the trench will be 6 feet, but depths may vary according to site-specific conditions (presence of bedrock, etc.). The proposed trench width for the pipeline would range from 18-48 inches.

The pipeline will be welded along the proposed route and lowered into place. Trenching equipment will cut through the soil or into the bedrock and create good backfill, eliminating the need to remove large rocks. The proposed buried pipeline will be visually and radiographically inspected and the entire pipeline will be pneumatically or hydrostatically tested before being placed into service. Routine vehicle traffic will be prevented from using pipeline routes as travel ways by posting signs at the route's intersection with an access road.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

If pipelines or roads encounter a drainage that could be subject to flooding or surface water during extreme precipitation events, Kerr-McGee will apply all applicable Army Corps mandates as well as the BLM's Hydraulic Considerations for Pipeline Crossings of Stream Channels (BLM Technical Note 423, April 2007). In addition, all stream and drainage crossings will be evaluated to determine the need for stream alteration permits from the State of Utah Division of Water Rights and if necessary, required permits will be secured. Similarly, where a road or pipeline crossing exists the pipe will be butt welded and buried to a depth between 24 and 48 inches or more. Dirt roads will be cut and restored to a condition equivalent to the existing condition. All Uintah County road encroachment and crossing permits, where applicable, will be obtained prior to crossing construction. In no case will pressure testing of pipelines result in discharge of liquids to the surface.

Pipeline signs will be installed along the route to indicate the pipeline proximity, ownership, and to provide emergency contact phone numbers. Above ground valves and lateral T's will be installed at various locations for production integrity and safety purposes.

Upon completion of the proposed buried pipeline, the entire area of disturbance will be reclaimed to the standards proposed in the Green River District Reclamation Guidelines. Please refer to section J for more details regarding final reclamation.

When no longer deemed necessary by the operator, Kerr-McGee or it's successor will consult with the Vernal BIA Office before terminating of the use of the pipeline(s).

#### The Anadarko Completions Transportation System (ACTS) information:

Kerr-McGee will use either a closed loop drilling system that will require one pit and one storage area to be constructed on the drilling pad or a traditional drilling operation with one pit. The storage area will be used to contain only the de-watered drill cuttings and will be lined and reclaimed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit is lined and will be used for the wells drilled on the pad or used as part of our Anadarko Completions Transportation (ACTS) system which is discussed in more detail below. Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completion pit.

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If Kerr-McGee does not use a closed loop system, it will construct a drilling reserve pit to contain drill cuttings and for use in completion operations. Depending on the location of the pit, its relation to future drilling locations, the reserve/completion pit will be utilized for the completion of the wells on that pad and/or be used as part of our ACTS system.

Kerr-McGee will use ACTS to optimize the completion processes for multiple pads across the project area which may include up to a section of development. ACTS will facilitate management of frac fluids by utilizing existing reserve pits and temporary, surface-laid aluminum liquids transfer lines between frac locations. The pit will be refurbished as follows when a traditional drill pit is used: mix and pile up drill cuttings with dry dirt, bury the original liner in the pit, walk bottom of pit with cat. Kerr-McGee will reline the pit with a 30 mil liner and double felt padding. The refurbished pit will be the same size or smaller as specified in the originally approved ROW/APD. The pit refurb will be done in a normal procedure and there will be no modification to the pit.

All four sides of the completions pit will be fenced in according to standard pit fencing procedures. Netting will be installed over all pits.

The collected hydrocarbons will be treated and sold at approved sales facilities. A loading rack with drip containment will also be installed where water trucks would unload and load to prevent damage caused from pulling hoses in and out of the pit .

ACTS will require temporarily laying multiple 6" aluminum water transfer lines on the surface between either existing or refurbished reserve pits. The temporary aluminum transfer lines will be utilized to transport frac fluid being injected and/or recovered during the completion process and will be laid adjacent to existing access roads or pipeline corridors. Upon completion of the frac operation, the liquids transfer lines will be flushed with fresh water and purged with compressed air. The contents of the transfer lines will be flushed into a water truck for delivery to another ACTS location or a reserve pit.

The temporary ACTS lines will be permitted under a separate cover to the Ute Indian Tribe.

The volume of frac fluid transported through a water transfer line will vary, but volume is projected to be approximately 1.75 bbls per 50-foot joint. Although the maximum working pressure is 125 psig, the liquids transfer lines will be operated at a pressure of approximately 30 to 40 psig. Kerr-McGee requests to keep the netted pit open for one year from first production of the first produced well on the pad. During this time the surrounding well location completion fluids may be recycled in this pit and utilized for other frac jobs in the area. After one year Kerr-McGee will backfill the pit and reclaim. If the pit is not needed for an entire year it will be backfilled and reclaimed earlier. Kerr-McGee understands that due to the temporary nature of this system, BIA considers this a casual use situation; therefore, no permanent ROW or temporary use plan will need to be issued by the BIA.

### E. Location and Types of Water Supply:

Water for drilling and completion operations will be obtained from the following sources:

Permit # 49-2307	JD Field Services	Green River- Section 15, T2N, R22E
Permit # 49-2321	R.N. Industries	White River- Section 2, T10S, R24E
Permit # 49-2319	R.N. Industries	White River- Various Sources
Permit # 49-2320	R.N. Industries	Green River- Section 33, T8S, R23E

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

#### F. Construction Materials:

Construction operations will typically be completed with native materials found on location. Construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source (described in site-specific documents). No construction materials will be removed from Tribal lands without prior approval from the BIA. A source location other than an on-location construction site will be designated either via a map or narrative within the project specific materials provided to the BIA.

NBU 921-22G4CS/ 921-22I1BS/ 921-22I1CS NBU 921-22J1BS/ 921-22J4AS/ 921-22J4CS Kerr-McGee Oil Gas Onshore, L.P. NBU 921-22I Pad Surface Use Plan of Operations 6 of 11

#### G. Methods for Handling Waste:

All wastes subject to regulation will be handled in compliance with applicable laws to minimize the potential for leaks or spills to the environment. Kerr-McGee also maintains a Spill Control and Countermeasure Plan, which includes notification requirements, including the BIA, for all reportable spills of oil, produced liquids, and hazardous materials.

Any accidental release, such as a leak or spill in excess of the reportable quantity, as established by 40 CFR Part 117.3, will be reported as per the requirements of CERCLA, Section 102 B. If a release involves petroleum hydrocarbons or produced liquids, Kerr-McGee will comply with the notification requirements of NTL-3A. Drill cuttings and/or drilling fluids will be contained in the reserve/frac pit whether a closed loop system is used or not. Cuttings will be buried in pit(s) upon closure. Unless specifically approved by the BIA, no oil or other oil-based drilling additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

Pits will be constructed to minimize the accumulation of surface precipitation runoff into the pit (via appropriate placement of subsoil storage areas and/or construction of berms, ditches, etc.). Should unexpected liquid petroleum hydrocarbons (crude oil or condensate) be encountered during drilling, completions or well testing, liquid petroleum hydrocarbons will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be released into a pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternate is approved by the BIA. Should timely removal not be feasible, the pit will be netted as soon as practical. Similarly, hydrocarbon removal will take place prior to the closure of the pit, unless authorization is provided for disposal via alternate pit closure methods (e.g. solidification).

The reserve and/or fracture stimulation pit will be lined with an impermeable liner. The liner will be a synthetic material 30 mil or thicker. The bottom and side walls of the pit will be void of any sharp rocks that could puncture the liner. The liner will be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner. After evaporation and when dry, the reserve pit liners will be cut off, ripped and/or folded back (as safety considerations allow) as near to the mud surface as possible and buried on location or hauled to a landfill prior to backfilling the pit with a minimum of five feet of soil material.

Where necessary and if conditions (freeboard, etc.) allow, produced liquids from newly completed wells may be temporarily disposed of into pits for a period not to exceed 90 days as per Onshore Order Number 7 (OSO 7). Subsequently, permanent approved produced water disposal methods will be employed in accordance with OSO 7 and/or as described in a Water Management Plan (WMP). Otherwise, fluids disposal locations and associated haul routes, for ROW consideration, are typically depicted on Topo A of individual projects. Revisions to the water source or method of transportation will be subject to written approval from the BIA.

Any additional pits necessary for subsequent operations, such as temporary flare or workover pits, will be contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of work at a well location.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after one year from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse (trash and other solid waste including cans, paper, cable, etc.) generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility. Immediately after removal of the drilling rig, all debris and other waste materials not contained within trash receptacles will be collected and removed from the well location.

NBU 921-22G4CS/ 921-22I1BS/ 921-22I1CS NBU 921-22J1BS/ 921-22J4AS/ 921-22J4CS Kerr-McGee Oil Gas Onshore, L.P. NBU 921-22I Pad Surface Use Plan of Operations 7 of 11

For the protection of livestock and wildlife, all open pits (excluding flare pits) will be fenced to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet. Siphons, catchments, and absorbent pads will be installed to keep hydrocarbons produced by the drilling rig or other equipment on location from entering the reserve pit. Hydrocarbons, contaminated pads, and/or soils will be disposed of in accordance with state and federal requirements.

Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

#### **Materials Management**

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term "hazardous materials" as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition, no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

Hazardous materials may be contained in some grease or lubricants, solvents, acids, paint, and herbicides, among others as defined above. Kerr-McGee maintains a file, per 29 CFR 1910.1200 (g) containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances that are used during the course of construction, drilling, completion, and production operations for this project. The transport, use, storage and handling of hazardous materials will follow procedures specified by federal and state regulations. Transportation of hazardous materials to the well location is regulated by the Department of Transportation (DOT) under 49 CFR, Parts 171-180. DOT regulations pertain to the packing, container handling, labeling, vehicle placarding, and other safety aspects.

Potentially hazardous materials used in the development or operation of wells will be kept in limited quantities on well sites and at the production facilities for short periods of time. Chemicals meeting the criteria for being an acutely hazardous material/substance or meet the quantities criteria per BLM Instruction Memorandum No. 93-344 will not be used.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities (crude oil/condensate, produced water). They may also be kept in limited quantities on drilling sites (barite, diesel fuel, cement, cottonseed hulls etc.) for short periods of time during drilling or completion activities.

Fluids disposal and pipeline/haul routes are depicted on Topo Map A.

Any produced water separated from recoverable condensate from the proposed well will be contained in a water tank and will then be transported by pipeline and/or truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E NBU #159 in Sec. 35 T9S R21E Ace Oilfield in Sec. 2 T6S R20E MC&MC in Sec. 12 T6S R19E Pipeline Facility in Sec. 36 T9S R20E

Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E

Bonanza Evaporation Pond in Sec. 2 T10S R23E

Or to one of the following Kerr-McGee active Salt Water Disposal (SWD) wells:

NBU 159 SWD in Sec. 35 T9S R21E CIGE 112D SWD in Sec. 19 T9S R21E CIGE 114 SWD in Sec. 34 T9S R21E NBU 921-34K SWD in Sec. 34 T9S R21E NBU 921-33F SWD in Sec. 34 T9S R21E NBU 921-22G4CS/ 921-22I1BS/ 921-22I1CS NBU 921-22J1BS/ 921-22J4AS/ 921-22J4CS Kerr-McGee Oil Gas Onshore, L.P. NBU 921-22I Pad Surface Use Plan of Operations 8 of 11

#### H. Ancillary Facilities:

ancillary facilities are

#### I. Well Site Layout:

The location, orientation and aerial extent of each drill pad, reserve/completion/flare pit (for closed loop or non-closed loop operations), access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure, proposed cuts and fills, and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment depending on whether a closed loop system is used. Surface distance may be less if using closed loop. But in either case, the area of disturbance will not exceed the maximum disturbance outlined in the attached exhibits.

For the protection of livestock and wildlife, all open pits and cellars will be fenced to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

Each well will utilize either a centralized tank battery, centralized fluids management system, or have tanks installed on its pad. Production/ Produced Liquid tanks will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids and to prevent livestock or wildlife entry. The tanks will be kept reasonably free from surface accumulations of liquid hydrocarbons. The tanks are not to be used for disposal of liquids from additional sources without prior approval of BIA.

#### J. Plans for Surface Reclamation:

The surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. Interim reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but is not limited to the re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils materials, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

#### **Interim Reclamation**

Interim reclamation may include pit evaporation, fluid removal, pit solidification, re-contouring, ripping, spreading top soil, seeding, and/or weed control. Interim reclamation will be performed in accordance with OSO 1, or written notification will be provided to the BIA for approval. Where feasible, drilling locations, reserve pits, or access routes not utilized for production operations will be re-contoured to a natural appearance.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. All stockpiled top soils will be used for interim reclamation where practical to maintain soil viability. Where possible, the land surface will be left "rough" after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit. Disposal of pit fluids and linings is discussed in Section G.

#### Final Reclamation

Final reclamation will be performed for unproductive wells and after the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by Kerr-McGee. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. The BIA will be notified prior to commencement of reclamation operations. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

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After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as closely as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring the site to the approximate contour that existed prior to pad construction, final grading will be conducted over the entire surface of the well site and access road. The area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers, where practical. The surface soil material will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep, where practical. The entire area will be uniformly covered with the depressions constructed perpendicular to the natural flow of water.

Reclamation of roads will be performed at the discretion of the BIA/Tribe. All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded in accordance with the seeding specifications as proposed below in "Measures Common to Interim and Final Reclamation".

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to the BIA/Tribe.

#### **Measures Common to Interim and Final Reclamation**

Soil preparation will be conducted using a disk for areas in need of more soil preparation following site preparation. This will provide primary soil tillage to a depth no greater than 6 inches. Prior to reseeding, compacted areas will be scarified by ripping or chiseling to loosen compacted soils, promote water infiltration, and improve soil aeration and root penetration.

Seeding will occur year-round as conditions allow and will typically be accomplished through the use of a no-till rangeland style seed drill with a "picker box" in order to seed "fluffy" seed. Where drill seeding is not the preferred method, seed will be broadcast and then raked into the ground at double the rate of drill seeding. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-vegetation. The seed mixes will be selected from a list provided by or approved by the BIA/Tribe or a specific seed mix will be proposed by Kerr-McGee to the BIA/Tribe and used after its approval. The selected specific seed mix for each well location and road segment will be utilized while performing interim and final reclamation for each project. All seed will be certified and tags will be maintained by Kerr-McGee. Every effort will be made to obtain "cheat grass free seed".

Seed Mix to be used for Well Site, Access Road, and Pipeline (as applicable):

Indian Ricegrass (Nezpar)	3
Sandberg Bluegrass	0.75
Bottlebrush Squirreltail	1
Great Basin Wildrye	0.5
Crested Wheatgrass	1.5
Winterfat	0.25
Shadscale	1.5
Four-wing Saltbrush	0.75
Forage Kochia	0.25
Total	9.5

Additional soil amendments and/or stabilization may be required on sites with poor soils and/or excessive erosion potential. Where severe erosion can become a problem and/or the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. Slopes will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to: erosion control blankets, hydro-mulch, and/or bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

#### Weed Control

Noxious weeds will be controlled in akk orihect areas un accordance with all applicable rules and regulations.

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#### K. Surface/Mineral Ownership:

Ute Indian Tribe
P.O. Box 70
988 South 7500 East Annex Building
Fort Duschesne, UT 84026
(435) 722-4307

United States of America Bureau of Land Management 170 South 500 East Vernal, UT 84078 (435) 781-4400

#### L. Other Information:

#### **Onsite Specifics:**

- No Arch monitor during construction required
- Paleo monitor during construction

#### **Cultural and Paleontological Resources**

All personnel are strictly prohibited from collecting artifacts, any paleontological specimens or fossils, and from disturbing any significant cultural resources in the area. If artifacts, fossils, or any culturally sensitive materials are exposed or identified in the area of construction, all construction operations that would affect the newly discovered resource will cease, and Kerr-McGee will provide immediate notification to the BIA.

#### **Resource Reports:**

A Class I literature survey was completed in December, 2011 by Montgomery Archaeological Consultants, Inc (MOAC). For additional details please refer to report MOAC 11-406.

A paleontological reconnaissance survey was completed on August 16, 2010 by SWCA Environmental Consultants. For additional details please refer to report UT11-14314-118.

Biological field survey was completed on August 8, 16 and 17, 2011 by Grasslands Consulting, Inc (GCI). For additional details please refer to report GCI-569.

#### **Proposed Action Annual Emissions Tables:**

Table 1: Proposed Action Annual Emissions (tons/year) <sup>1</sup>						
Pollutant	Development	Production	Total			
NOx	3.8	0.12	3.92			
CO	2.2	0.11	2.31			
VOC	0.1	4.9	5			
SO <sub>2</sub>	0.005	0.0043	0.0093			
$PM_{10}$	1.7	0.11	1.81			
PM <sub>2.5</sub>	0.4	0.025	0.425			
Benzene	2.2E-03	0.044	0.046			
Toluene	1.6E-03	0.103	0.105			
Ethylbenzene	3.4E-04	0.005	0.005			
Xylene	1.1E-03	0.076	0.077			
n-Hexane	1.7E-04	0.145	0.145			
Formaldehyde	1.3E-02	8.64E-05	1.31E-02			

<sup>&</sup>lt;sup>1</sup> Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

Table 2:	Proposed Action versus 201 Inventory Com		I Emissions
Species	Proposed Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory <sup>a</sup> (ton/yr)	to WRAP Phase
NOx	23.52	16,547	0.14%
VOC	30	127,495	0.02%

 $<sup>^</sup>a\,http://www.wrapair.org/forums/ogwg/Phase III\_Inventory.html$ 

Uintah Basin Data

NBU 921-22G4CS/ 921-22I1BS/ 921-22I1CS NBU 921-22J1BS/ 921-22J4AS/ 921-22J4CS Kerr-McGee Oil Gas Onshore, L.P. NBU 921-22I Pad Surface Use Plan of Operations 11 of 11

#### M. Lessee's or Operators' Representative & Certification:

Laura Abrams Regulatory Analyst II Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6356 Tommy Thompson General Manager, Drilling Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Laura Abrams

December 19, 2011

Date



Kerr-McGee Oil & Gas Onshore LP PO Box 173779 DENVER, CO 80217-3779

October 10, 2011

Ms. Diana Mason Division of Oil, Gas and Mining P.O. Box 145801 Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11

NBU 921-22J1BS

T9S-R21E

Section 22 NESE (Surface), NWSE (Bottom Hole)

Surface: 2005' FSL, 644' FEL Bottom Hole: 2405' FSL, 1817' FEL

Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling.

- Kerr-McGee's NBU 921-22J1BS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing roads and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

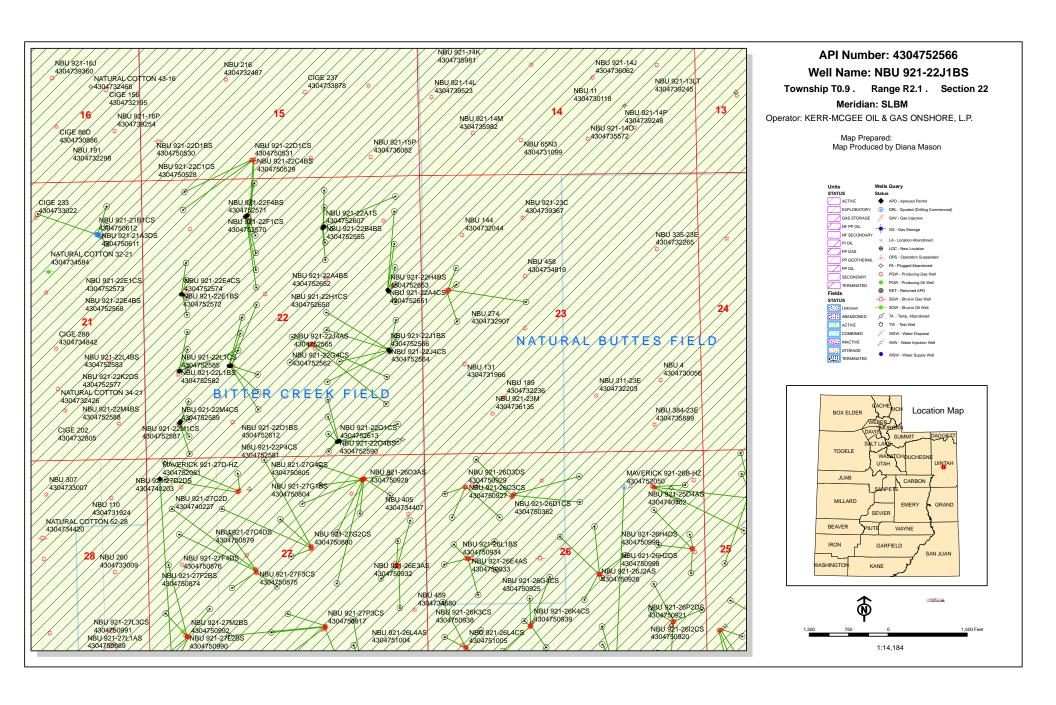
Therefore, based on the above stated information, Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

Joe Matney Sr. Staff Landman

Joe Matiney



### United States Department of the Interior

#### BUREAU OF LAND MANAGEMENT

Utah State Office P.O. Box 45155 Salt Lake City, Utah 84145-0155

IN REPLY REFER TO: 3160 (UT-922)

May 14, 2012

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

2012 Plan of Development Natural Buttes Unit

Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2012 within the Natural Buttes Unit, Uintah County, Utah.

BHL Sec 22 T09S R21E 0579 FNL 1819 FEL

API # WELL NAME LOCATION

(Proposed PZ WASATCH-MESA VERDE)

WELL PAD - NBU 921-22K 43-047-52550 NBU 921-22K2AS Sec 22 T09S R21E 1748 FSL 1611 FWL BHL Sec 22 T09S R21E 2366 FSL 1832 FWL 43-047-52551 NBU 921-22K4CS Sec 22 T09S R21E 1753 FSL 1640 FWL BHL Sec 22 T09S R21E 1576 FSL 2147 FWL 43-047-52552 NBU 921-22N1BS Sec 22 T09S R21E 1751 FSL 1630 FWL BHL Sec 22 T09S R21E 1244 FSL 2147 FWL 43-047-52575 NBU 921-22F4CS Sec 22 T09S R21E 1755 FSL 1650 FWL BHL Sec 22 T09S R21E 2406 FNL 2148 FWL 43-047-52576 NBU 921-22F3DS Sec 22 T09S R21E 1747 FSL 1601 FWL BHL Sec 22 T09S R21E 2634 FNL 1870 FWL 43-047-52580 NBU 921-22N1CS Sec 22 T09S R21E 1750 FSL 1620 FWL BHL Sec 22 T09S R21E 0912 FSL 2146 FWL WELL PAD - NBU 921-22B 43-047-52553 NBU 921-22G1CS Sec 22 T09S R21E 0973 FNL 1861 FEL BHL Sec 22 T09S R21E 1574 FNL 1818 FEL 43-047-52554 NBU 921-22B4CS Sec 22 T09S R21E 0965 FNL 1854 FEL BHL Sec 22 T09S R21E 1243 FNL 1819 FEL 43-047-52555 NBU 921-22B4BS Sec 22 T09S R21E 0935 FNL 1828 FEL BHL Sec 22 T09S R21E 0911 FNL 1819 FEL 43-047-52556 NBU 921-22B1CS Sec 22 T09S R21E 0950 FNL 1841 FEL

RECEIVED: May 15, 2012

API # WELL NAME LOCATION

(Proposed PZ WASATCH-MESA VERDE)

43-047-52557 NBU 921-22B1BS Sec 22 T09S R21E 0958 FNL 1848 FEL

BHL Sec 22 T09S R21E 0249 FNL 1819 FEL

43-047-52607 NBU 921-22A1S Sec 22 T09S R21E 0943 FNL 1835 FEL

BHL Sec 22 T09S R21E 0386 FNL 0464 FEL

WELL PAD - NBU 921-22C

43-047-52558 NBU 921-22C1BS Sec 22 T09S R21E 0691 FNL 2010 FWL

BHL Sec 22 T09S R21E 0085 FNL 2150 FWL

43-047-52567 NBU 921-22C4CS Sec 22 T09S R21E 0696 FNL 2001 FWL

BHL Sec 22 T09S R21E 1078 FNL 2149 FWL

43-047-52569 NBU 921-22F1BS Sec 22 T09S R21E 0701 FNL 1993 FWL

BHL Sec 22 T09S R21E 1410 FNL 2149 FWL

43-047-52570 NBU 921-22F1CS Sec 22 T09S R21E 0707 FNL 1984 FWL

BHL Sec 22 T09S R21E 1742 FNL 2149 FWL

43-047-52571 NBU 921-22F4BS Sec 22 T09S R21E 0712 FNL 1976 FWL

BHL Sec 22 T09S R21E 2073 FNL 2149 FWL

WELL PAD - NBU 921-22I

43-047-52560 NBU 921-22I1CS Sec 22 T09S R21E 1973 FSL 0620 FEL

BHL Sec 22 T09S R21E 2237 FSL 0494 FEL

43-047-52561 NBU 921-22I1BS Sec 22 T09S R21E 1981 FSL 0626 FEL

BHL Sec 22 T09S R21E 2569 FSL 0494 FEL

43-047-52562 NBU 921-22G4CS Sec 22 T09S R21E 2013 FSL 0650 FEL

BHL Sec 22 T09S R21E 2569 FNL 1818 FEL

43-047-52564 NBU 921-22J4CS Sec 22 T09S R21E 1989 FSL 0632 FEL

BHL Sec 22 T09S R21E 1410 FSL 1817 FEL

43-047-52565 NBU 921-22J4AS Sec 22 T09S R21E 1997 FSL 0638 FEL

BHL Sec 22 T09S R21E 1796 FSL 1580 FEL

43-047-52566 NBU 921-22J1BS Sec 22 T09S R21E 2005 FSL 0644 FEL

BHL Sec 22 T09S R21E 2405 FSL 1817 FEL

WELL PAD - NBU 921-22H

43-047-52563 NBU 921-22H4CS Sec 22 T09S R21E 2196 FNL 0627 FEL

BHL Sec 22 T09S R21E 2403 FNL 0494 FEL

43-047-52650 NBU 921-22H1CS Sec 22 T09S R21E 2179 FNL 0637 FEL

BHL Sec 22 T09S R21E 1740 FNL 0494 FEL

43-047-52651 NBU 921-22A4CS Sec 22 T09S R21E 2170 FNL 0642 FEL

BHL Sec 22 T09S R21E 1288 FNL 0504 FEL

43-047-52652 NBU 921-22A4BS Sec 22 T09S R21E 2162 FNL 0647 FEL

BHL Sec 22 T09S R21E 0670 FNL 0494 FEL

43-047-52653 NBU 921-22H4BS Sec 22 T09S R21E 2188 FNL 0632 FEL

BHL Sec 22 T09S R21E 2071 FNL 0494 FEL

Page 2

API # WELL NAME LOCATION

(Proposed PZ WASATCH-MESA VERDE)

#### WELL PAD - NBU 921-22E

43-047-52568 NBU 921-22E4BS Sec 22 T09S R21E 2179 FNL 0750 FWL

BHL Sec 22 T09S R21E 2239 FNL 0824 FWL

43-047-52572 NBU 921-22E1BS Sec 22 T09S R21E 2179 FNL 0720 FWL

BHL Sec 22 T09S R21E 1576 FNL 0824 FWL

43-047-52573 NBU 921-22E1CS Sec 22 T09S R21E 2179 FNL 0730 FWL

BHL Sec 22 T09S R21E 1908 FNL 0824 FWL

43-047-52574 NBU 921-22E4CS Sec 22 T09S R21E 2179 FNL 0740 FWL

BHL Sec 22 T09S R21E 2572 FNL 0824 FWL

#### WELL PAD - NBU 921-22L

43-047-52577 NBU 921-22K2DS Sec 22 T09S R21E 1668 FSL 0666 FWL

BHL Sec 22 T09S R21E 2038 FSL 1784 FWL

43-047-52582 NBU 921-22L1BS Sec 22 T09S R21E 1660 FSL 0648 FWL

BHL Sec 22 T09S R21E 2408 FSL 0824 FWL

43-047-52583 NBU 921-22L4BS Sec 22 T09S R21E 1672 FSL 0675 FWL

BHL Sec 22 T09S R21E 1744 FSL 0824 FWL

43-047-52585 NBU 921-22L1CS Sec 22 T09S R21E 1664 FSL 0657 FWL

BHL Sec 22 T09S R21E 2076 FSL 0824 FWL

#### WELL PAD - NBU 921-220

43-047-52578 NBU 921-2204CS Sec 22 T09S R21E 0269 FSL 1655 FEL

BHL Sec 22 T09S R21E 0086 FSL 1816 FEL

43-047-52579 NBU 921-22P4BS Sec 22 T09S R21E 0280 FSL 1606 FEL

BHL Sec 22 T09S R21E 0581 FSL 0494 FEL

43-047-52581 NBU 921-22P4CS Sec 22 T09S R21E 0278 FSL 1616 FEL

BHL Sec 22 T09S R21E 0251 FSL 0494 FEL

43-047-52590 NBU 921-2204BS Sec 22 T09S R21E 0271 FSL 1645 FEL

BHL Sec 22 T09S R21E 0416 FSL 1816 FEL

43-047-52612 NBU 921-2201BS Sec 22 T09S R21E 0276 FSL 1625 FEL

BHL Sec 22 T09S R21E 1079 FSL 1817 FEL

43-047-52613 NBU 921-2201CS Sec 22 T09S R21E 0274 FSL 1635 FEL

BHL Sec 22 T09S R21E 0747 FSL 1816 FEL

#### WELL PAD - NBU 921-22M

43-047-52586 NBU 921-22M1BS Sec 22 T09S R21E 0695 FSL 0660 FWL

BHL Sec 22 T09S R21E 1080 FSL 0823 FWL

43-047-52587 NBU 921-22M1CS Sec 22 T09S R21E 0686 FSL 0654 FWL

BHL Sec 22 T09S R21E 0748 FSL 0823 FWL

43-047-52588 NBU 921-22M4BS Sec 22 T09S R21E 0678 FSL 0649 FWL

BHL Sec 22 T09S R21E 0416 FSL 0823 FWL

43-047-52589 NBU 921-22M4CS Sec 22 T09S R21E 0670 FSL 6043 FWL

BHL Sec 22 T09S R21E 0086 FSL 0823 FWL

Page 3

Page 4

This office has no objection to permitting the wells at this time.

Michael L. Coulthard

Digitally signed by Michael L Coulthard

Disc. cn=Michael L. Coulthard, o=Bureau of Land Management,
ou=Branch of Minerals, email-Michael\_Coulthard@blm.gov, c=US
Date: 2012.05.15 07:17:01 -06'00'

bcc: File - Natural Buttes Unit Division of Oil Gas and Mining Central Files

Agr. Sec. Chron Fluid Chron

MCoulthard:mc:5-14-12

#### **WORKSHEET** APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 4/27/2012	API NO. ASSIGNED:	43047525660000

WELL NAME: NBU 921-22J1BS

OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995) PHONE NUMBER: 720 929-6356

**CONTACT:** Laura Abrams

PROPOSED LOCATION: NESE 22 090S 210E **Permit Tech Review:** 

> SURFACE: 2005 FSL 0644 FEL Engineering Review:

> **BOTTOM: 2405 FSL 1817 FEL** Geology Review:

**COUNTY: UINTAH** 

**LATITUDE**: 40.01975 LONGITUDE: -109.53067

**UTM SURF EASTINGS: 625388.00** NORTHINGS: 4430984.00

FIELD NAME: NATURAL BUTTES LEASE TYPE: 1 - Federal

LEASE NUMBER: UTU 010950-A PROPOSED PRODUCING FORMATION(S): BLACKHAWK

SURFACE OWNER: 2 - Indian **COALBED METHANE: NO** 

**RECEIVED AND/OR REVIEWED: LOCATION AND SITING:** ✓ PLAT R649-2-3. Unit: NATURAL BUTTES Bond: FEDERAL - WYB000291 **Potash** R649-3-2. General Oil Shale 190-5 Oil Shale 190-3 R649-3-3. Exception **Drilling Unit** Oil Shale 190-13 Board Cause No: Cause 173-14 Water Permit: 43-8496 Effective Date: 12/2/1999 **RDCC Review:** 

Siting: Suspends General Siting Fee Surface Agreement

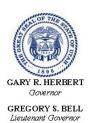
✓ Intent to Commingle R649-3-11. Directional Drill

**Commingling Approved** 

Comments: Presite Completed

Stipulations:

3 - Commingling - ddoucet 4 - Federal Approval - dmason 15 - Directional - dmason 17 - Oil Shale 190-5(b) - dmason



### State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

#### Permit To Drill

\*\*\*\*\*\*

Well Name: NBU 921-22J1BS API Well Number: 43047525660000 Lease Number: UTU 010950-A

Surface Owner: INDIAN Approval Date: 5/30/2012

#### Issued to:

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

#### Authority:

Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the BLACKHAWK Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

#### **Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

#### **Commingle:**

In accordance with Board Cause No. 173-14, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

#### General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

#### **Conditions of Approval:**

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil

shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

#### **Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

• Within 24 hours following the spudding of the well - contact Carol Daniels at 801-538-5284

(please leave a voicemail message if not available)

submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website

at http://oilgas.ogm.utah.gov

#### Reporting Requirements:

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) due within 5 days of spudding the well
- Monthly Status Report (Form 9) due by 5th day of the following calendar month
  - Requests to Change Plans (Form 9) due prior to implementation
  - Written Notice of Emergency Changes (Form 9) due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) due prior to implementation
  - Report of Water Encountered (Form 7) due within 30 days after completion
- Well Completion Report (Form 8) due within 30 days after completion or plugging

Approved By:

For John Rogers Associate Director, Oil & Gas Form 3160-3 RECEIVED (August 2007)

# RECEIVED

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGENERS BUREAU OF LAND MANAGEMENT

JAN 10 2012

FORM APPROVED OMB No. 1004-0136 Expires July 31, 2010

5. Lease Serial No.

OW.	BLW VERNAL, UTAH		
APPLICATION FOR PERMIT	TO DRILL OR REENTER	6. If Indian, Allottee or Tribe	e Name
1a. Type of Work: ☑ DRILL ☐ REENTER		7. If Unit or CA Agreement, UTU63047A	Name and No.
1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Ot	2 Bro Zente	8. Lease Name and Well No. NBU 921-22J1BS	•
2. Name of Operator Contact: KERR MCGEE OIL&GAS ONSHOREMAIPLaura.A	LAURA ABRAMS brams@anadarko.com	9. API Well No. 43 (A1 52	5ldo
3a. Address PO BOX 173779 DENVER, CO 80202-3779	3b. Phone No. (include area code) Ph: 720-929-6356 Fx: 720-929-7356	10. Field and Pool, or Explor NATURAL BUTTES	
4. Location of Well (Report location clearly and in accorded	ance with any State requirements.*)	11. Sec., T., R., M., or Blk. a	and Survey or Area
At surface NESE 2005FSL 644FEL 4	0.019800 N Lat, 109.530715 W Lon	Sec 22 T9S R21E Me	er SLB
At proposed prod. zone NWSE 2405FSL 1817FEL		·	
14. Distance in miles and direction from nearest town or post APPROXIMATELY 45.3 MILES SOUTH OF VE	office* RNAL, UT	12. County or Parish UINTAH	13. State UT
<ol> <li>Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)</li> <li>877'</li> </ol>	16. No. of Acres in Lease 800.00	17. Spacing Unit dedicated to	o this well
<ol> <li>Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.</li> </ol>	19. Proposed Depth	20. BLM/BIA Bond No. on f	file
377'	11234 MD 11036 TVD	WYB000291	
21. Elevations (Show whether DF, KB, RT, GL, etc. 4838 GL	22. Approximate date work will start 06/30/2012	23. Estimated duration 60-90 DAYS	
	24. Attachments		
The following, completed in accordance with the requirements of	f Onshore Oil and Gas Order No. 1, shall be attached to the	nis form:	
<ol> <li>Well plat certified by a registered surveyor.</li> <li>A Drilling Plan.</li> <li>A Surface Use Plan (if the location is on National Forest Syst SUPO shall be filed with the appropriate Forest Service Off</li> </ol>	em Lands the Some State Control of the South State Sta	ns unless covered by an existing	•
25. Signature (Electronic Submission)	Name (Printed/Typed) LAURA ABRAMS Ph: 720-929-6356		Date 12/20/2011
I THE			

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Conditions of approval, if any, are attached.

Jerry Kenczka

**VERNAL FIELD OFFICE** 

Name (Printed/Typed)

Office

REGULATORY ANALYST II

Approved by (Signature)

Title

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)

Assistant Field Manager

Lánds & Mineral Resources

Electronic Submission #126286 verified by the BLM Well Information System For KERR MCGEE OIL&GAS ONSHORE, LP, sent to the Vernal



### **NOTICE OF APPROVAL** CONDITIONS OF APPROVAL ATTACHED

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

12 RRH1308AE

NO NOS APD Posteu

DUN 1 2 2012



#### UNITED STATES DEPARTMENT OF THE INTERIOR **BUREAU OF LAND MANAGEMENT VERNAL FIELD OFFICE** 170 South 500 East

**VERNAL, UT 84078** 

(435) 781-4400



### CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL

Company:	Kerr McGee Oil & Gas Onshore LP	Location:	NESE, Sec.22,T9S R21E
Well No:	NBU 921-22J1BS	Lease No:	UTU-010950A
API No:	43-047-52566	Agreement:	Natural Buttes

**OFFICE NUMBER:** 

(435) 781-4400

OFFICE FAX NUMBER:

(435) 781-3420

### A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR FIELD REPRESENTATIVE TO INSURE COMPLIANCE

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.

#### NOTIFICATION REQUIREMENTS

Construction Activity (Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist)	-	The Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist shall be notified at least 48 hours in advance of any construction activity. The Ute Tribal office is open Monday through Thursday.
Construction Completion (Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist)	-	Upon completion of the pertinent APD/ROW construction, notify the Ute Tribe Energy & Minerals Dept. for a Tribal Technician to verify the Affidavit of Completion. Notify the BLM Environmental Scientist prior to moving on the drilling rig.
Spud Notice (Notify BLM Petroleum Engineer)	-	Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify BLM Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to running casing and cementing all casing strings to: <a href="mailto:blm.ut_vn_opreport@blm.gov">blm_ut_vn_opreport@blm.gov</a>
BOP & Related Equipment Tests (Notify BLM Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify BLM Petroleum Engineer)	-	Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

Page 2 of 7 Well: NBU 921-22J1BS 6/6/2012

#### SURFACE USE PROGRAM CONDITIONS OF APPROVAL (COAs)

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 gms of NO<sub>x</sub> per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.
- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO<sub>x</sub> per horsepower-hour.

#### Site Specific COA's

- Paint facilities "Shadow Gray"
- Conduct a raptor survey prior to construction operation if such activates would take place during raptor nesting season (January 1- September 30). If active raptor nests are identified during the survey, operations should be conducted according to the seasonal restrictions detailed in the Uinta Basin-specific RMP guidelines and spatial offsets specified by the USFWS Utah
- If construction and/or drilling operations have not been initiated prior to August 8, 2012, conduct
  a biological survey to determine the guidelines specified in the USFWS Rare Plant Conservation
  Measures and the BLM RMP ROD. KMG will implement commitment contained in the GNB BO.
- Monitor construction operation with a permitted paleontologist.

#### DOWNHOLE PROGRAM CONDITIONS OF APPROVAL (COAs)

#### SITE SPECIFIC DOWNHOLE COAs:

• Gamma ray Log shall be run from Total Depth to Surface.

#### Variances Granted:

#### Air Drilling

- Properly lubricated and maintained rotating head. Variance granted to use a properly maintained and lubricated diverter bowl in place of a rotating head.
- Blooie line discharge 100' from the well bore. Variance granted for blooie line discharge to be 45' from the well bore.
- Compressors located in the opposite direction from the blooie line a minimum of 100' from the
  well bore. Variance granted for truck/trailer mounted air compressors located 40'from the well
  bore.
- In lieu of mud products on location, Kerr McGee will fill the reserve pit with water for the kill medium and will utilize a skid pump near the reserve pit to supply the water to the well bore if necessary.
- Automatic igniter. Variance granted for igniter due to there being no productive formations encountered while air drilling.
- FIT Test. Variance granted due to well known geology and the problems that can occur with the FIT test.

Page 4 of 7 Well: NBU 921-22J1BS

6/6/2012

All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to. The following items are emphasized:

#### DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and <u>NOT</u> by the rig pumps. Test shall be reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- Cement baskets shall not be run on surface casing.
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.

Page 5 of 7 Well: NBU 921-22J1BS 6/6/2012

- A cement bond log (CBL) will be run from the production casing shoe to the <u>top of cement</u> and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- Please submit an electronic copy of all other logs run on this well in LAS format to BLM\_UT\_VN\_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

Page 6 of 7 Well: NBU 921-22J1BS 6/6/2012

#### **OPERATING REQUIREMENT REMINDERS:**

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at www.ONRR.gov.
- Should the well be successfully completed for production, the BLM Vernal Field office must be
  notified when it is placed in a producing status. Such notification will be by written
  communication and must be received in this office by not later than the fifth business day
  following the date on which the well is placed on production. The notification shall provide, as a
  minimum, the following informational items:
  - o Operator name, address, and telephone number.
  - Well name and number.
  - Well location (¼¼, Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - o Unit agreement and/or participating area name and number, if applicable.
  - o Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if

Page 7 of 7 Well: NBU 921-22J1BS 6/6/2012

performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field
  Office Petroleum Engineers will be provided with a date and time for the initial meter calibration
  and all future meter proving schedules. A copy of the meter calibration reports shall be
  submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API
  standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All
  measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted
  to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs
  first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be
  adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively
  sealed in accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover
  equipment shall be removed from a well to be placed in a suspended status without prior
  approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30
  days, prior approval of the BLM Vernal Field Office shall be obtained and notification given
  before resumption of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

Sundry Number: 35458 API Well Number: 43047525660000

	STATE OF UTAH		FORM 9
ı	DEPARTMENT OF NATURAL RESOURCE DIVISION OF OIL, GAS, AND MINI		5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 010950-A
SUNDR	RY NOTICES AND REPORTS O	N WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute In
	posals to drill new wells, significantly do reenter plugged wells, or to drill horizont n for such proposals.		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: NBU 921-22J1BS		
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	9. API NUMBER: 43047525660000		
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	Street, Suite 600, Denver, CO, 80217	<b>PHONE NUMBER:</b> 3779 720 929-6	9. FIELD and POOL or WILDCAT: 5NATERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2005 FSL 0644 FEL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH Qtr/Qtr: NESE Section: 2	n: S	STATE: UTAH	
11. CHECI	K APPROPRIATE BOXES TO INDICATE	NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
✓ SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud: 3/5/2013	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
3/3/2013	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
DRILLING REPORT Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
,	WILDOAT WELL DETERMINATION		OTHER:
	WILDCAT WELL DETERMINATION	OTHER	<u> </u>
THE WELL SPUD O RIG. DRILLED SCHEDULE 10 CONI ANTICIPATED SU	COMPLETED OPERATIONS. Clearly show all N MARCH 5, 2013 AT 16:30. M 20" CONDUCTOR HOLE TO 4 DUCTOR PIPE. CEMENT WITH PRESENT MARCH 23, 2013 AT CEMENT MARCH 23, 2013 AT	IIRU TRIPLE A BUCKET 0'. RAN 14" 36.7# 28 SACKS READY MIX. IARCH 22, 2013 AND	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY March 08, 2013
NAME (PLEASE PRINT) Lindsey Frazier	<b>PHONE NUMBE</b> 720 929-6857	R TITLE Regulatory Analyst II	
SIGNATURE		DATE	
N/A		3/8/2013	

## STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

#### **ENTITY ACTION FORM**

Operator:

KERR McGEE OIL & GAS ONSHORE LP

Operator Account Number: N 2995

Address:

P.O. Box 173779

city DENVER

state CO zip 80217

Phone Number: (720) 929-6857

#### Well 1

API Number	Well	Name	QQ	Sec	Twp	Rng	County
4304752566	NBU 921-22J1BS		NESE	22	98	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	s	pud Da	te		ity Assignment iffective Date
B	99999	2900		3/5/2013	3		13/2013
Comments: MIRU	TRIPLE A BUCKET R	ilG.					

SPUD WELL LOCATION ON March 5, 2013 AT 16:30 HRS.

Well 2

API Number	Wel	l Name	QQ	Sec	Twp	Rng	County
4304752565	NBU 921-22J4AS	}	NESE	22	98	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	S	pud Da	te	Enti	ty Assignment fective Date
Comments:	99999	2900	3/6/2013		311	3/2013	

#### Well 3

		l Name	QQ	Sec	Twp	Rng	County
4304752562 NBU 9	21-22G4CS		NESE	22	98	21E	UINTAH
• • • • • • • • • • • • • • • • • • •	rent Entity lumber	New Entity Number	Spud Date			itity Assignment Effective Date	
В	99999	2900		3/6/2013	3	311	3/2013

MIRU TRIPLE A BUCKET RIG.

SPUD WELL LOCATION ON March 6, 2013 AT 11:30 HRS.

#### **ACTION CODES:**

- A Establish new entity for new well (single well only)
- B Add new well to existing entity (group print will C Re-assign well from one existing entity to another existing entity
- D Re-assign well from one existing entity to rev e2013

  E Other (Explain in 'comments' section)

Lindsey Frazier

Name (Please Print)

Signature

REGULATORY ANALYST II

3/8/2013

Title

Date

Sundry Number: 38455 API Well Number: 43047525660000

	STATE OF UTAH			FORM 9			
ı	DEPARTMENT OF NATURAL RESOUF DIVISION OF OIL, GAS, AND M		3	5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 010950-A			
SUNDR	Y NOTICES AND REPORTS	ON	WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute In			
	posals to drill new wells, significantl reenter plugged wells, or to drill horiz n for such proposals.			7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES			
1. TYPE OF WELL Gas Well		8. WELL NAME and NUMBER: NBU 921-22J1BS					
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	:. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.						
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 802		NE NUMBER: 9 720 929-6	9. FIELD and POOL or WILDCAT: 5NATURAL BUTTES			
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2005 FSL 0644 FEL				COUNTY: UINTAH			
QTR/QTR, SECTION, TOWNSH Qtr/Qtr: NESE Section: 2	IIP, RANGE, MERIDIAN: 2 Township: 09.0S Range: 21.0E Mer	5	STATE: UTAH				
11. CHECI	K APPROPRIATE BOXES TO INDICA	ATE N	ATURE OF NOTICE, REPOR	T, OR OTHER DATA			
TYPE OF SUBMISSION			TYPE OF ACTION				
	ACIDIZE		ALTER CASING	CASING REPAIR			
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS		CHANGE TUBING	CHANGE WELL NAME			
	CHANGE WELL STATUS		COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE			
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	□ F	FRACTURE TREAT	NEW CONSTRUCTION			
·	OPERATOR CHANGE		PLUG AND ABANDON	PLUG BACK			
	PRODUCTION START OR RESUME		RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION			
SPUD REPORT Date of Spud:	REPERFORATE CURRENT FORMATION		SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON			
				WATER DISPOSAL			
✓ DRILLING REPORT	L TUBING REPAIR		/ENT OR FLARE				
Report Date: 6/3/2013	☐ WATER SHUTOFF ☐	□ s	SI TA STATUS EXTENSION	APD EXTENSION			
3, 3, 20.3	WILDCAT WELL DETERMINATION		DTHER	OTHER:			
No actitivy for the	COMPLETED OPERATIONS. Clearly show month of May 2013. Well 1	TD at	Drilled to 3,000 ft.	epths, volumes, etc.  Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY June 04, 2013			
NAME (PLEASE PRINT) Matthew P Wold	<b>PHONE NUM</b> 720 929-6993	IBER	TITLE Regulatory Analyst I				
SIGNATURE N/A			<b>DATE</b> 6/3/2013				

### State of Utah - Notification Form

Operator <u>Anadarko Petroleum</u> Rig Name/# <u>HP 318</u> Submitted By <u>HARMON COCKRELL</u> Phone Number <u>435-828-0988/1544</u> Well Name/Number <u>NBU 921-22J1BS</u> Qtr/Qtr <u>NE/SE</u> Section <u>22</u> Township <u>9S</u> Range 21E Lease Serial Number <u>UTU 010950-A</u> API Number 4304752566

Cas	sing – Time casing run starts, not o	eme	enting t	mes.	
	Production Casing Other				
	Date/Time		АМ 🗌	PM 🗌	
BOP	<u>PE</u> Initial BOPE test at surface casin Other	g po	int		
	Date/Time <u>06/16/2013</u> <u>16:</u>	<u>00</u> /	4M 🗌	PM 🖂	•
	Move           ation To:            Date/Time	М [	] PM[	DIV	RECEIVED JUN 1 5 2013 OF OIL, GAS & MINING
Rem	narks <u>TIME IS ESTIMATED</u>				

### State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# HP 318 Submitted By KENNY CRUTH Phone Number 435-828-0988/1544 Well Name/Number NBU 921-22J1BS Qtr/Qtr NW/SE Section 22 Township 9S Range 21E Lease Serial Number UTU 010950-A API Number 4304752566
<u>Casing</u> – Time casing run starts, not cementing times.
<ul><li>Production Casing</li><li>Other</li></ul>
Date/Time <u>06/23/2013</u>
BOPE Initial BOPE test at surface casing point Other
Date/Time AM  PM
RECEIVED  Rig Move  Location To: DIV. OF OIL, GAS & MININ
Date/Time AM PM D
Remarks TIME IS ESTIMATED

Sundry Number: 39774 API Well Number: 43047525660000

	STATE OF UTAH				FORM 9
ι	DEPARTMENT OF NATURAL RESOUR DIVISION OF OIL, GAS, AND M		3	5.LEASE DESIGN UTU 010950-	NATION AND SERIAL NUMBER:
SUNDR	RY NOTICES AND REPORTS	WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute In		
Do not use this form for pro current bottom-hole depth, I FOR PERMIT TO DRILL form	posals to drill new wells, significantl reenter plugged wells, or to drill horiz n for such proposals.	en existing wells below aterals. Use APPLICATION	7.UNIT or CA AG NATURAL BUT	GREEMENT NAME: TES	
1. TYPE OF WELL Gas Well			8. WELL NAME a NBU 921-22J1		
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.	9. API NUMBER: 43047525660			
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	h Street, Suite 600, Denver, CO, 802	9. FIELD and PC 5NIATUERAL BUT	OOL or WILDCAT: TES		
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2005 FSL 0644 FEL			COUNTY: UINTAH		
QTR/QTR, SECTION, TOWNSH	HIP, RANGE, MERIDIAN: 2 Township: 09.0S Range: 21.0E Mer	3	STATE: UTAH		
11. CHECI	K APPROPRIATE BOXES TO INDIC.	ATE N	ATURE OF NOTICE, REPOR	T, OR OTHER	DATA
TYPE OF SUBMISSION			TYPE OF ACTION		
	ACIDIZE		ALTER CASING	CASING F	REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS		CHANGE TUBING	CHANGE	WELL NAME
	CHANGE WELL STATUS		COMMINGLE PRODUCING FORMATIONS	CONVER	T WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	☐ F	FRACTURE TREAT	☐ NEW COI	NSTRUCTION
	OPERATOR CHANGE	F	PLUG AND ABANDON	PLUG BA	СК
SPUD REPORT	PRODUCTION START OR RESUME	□ F	RECLAMATION OF WELL SITE	RECOMP	LETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION		SIDETRACK TO REPAIR WELL	☐ TEMPOR	ARY ABANDON
	TUBING REPAIR		/ENT OR FLARE		DISPOSAL
✓ DRILLING REPORT Report Date:	WATER SHUTOFF		SI TA STATUS EXTENSION	APD EXT	
7/5/2013			7.1150		
	WILDCAT WELL DETERMINATION		DIHER	OTHER:	
	COMPLETED OPERATIONS. Clearly show			Accep Utah Oil, Gas FOR RI	etc.  pted by the Division of and Mining ECORD ONLY  1, 2013
NAME (PLEASE PRINT) Teena Paulo	<b>PHONE NUN</b> 720 929-6236	IBER	TITLE Staff Regulatory Specialist		
SIGNATURE N/A			<b>DATE</b> 7/5/2013		

RECEIVED: Jul. 05, 2013

Sundry Number: 40783 API Well Number: 43047525660000

	STATE OF UTAH			FORM 9						
ı	DEPARTMENT OF NATURAL RESOUR DIVISION OF OIL, GAS, AND MI			5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 010950-A						
	Y NOTICES AND REPORTS		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute In							
	posals to drill new wells, significantly reenter plugged wells, or to drill horizen n for such proposals.		7.UNIT OF CA AGREEMENT NAME: NATURAL BUTTES							
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 921-22J1BS							
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		9. API NUMBER: 43047525660000							
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 8021	IE NUMBER: 720 929-6	9. FIELD and POOL or WILDCAT: 5NIATUERAL BUTTES							
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2005 FSL 0644 FEL			COUNTY: UINTAH							
QTR/QTR, SECTION, TOWNSH Qtr/Qtr: NESE Section: 2	STATE: UTAH									
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA										
TYPE OF SUBMISSION			TYPE OF ACTION							
	ACIDIZE	☐ AL	TER CASING	CASING REPAIR						
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	Сн	ANGE TUBING	CHANGE WELL NAME						
	CHANGE WELL STATUS	□ со	MMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE						
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	☐ FR	ACTURE TREAT	NEW CONSTRUCTION						
	OPERATOR CHANGE	PL	UG AND ABANDON	PLUG BACK						
SPUD REPORT	PRODUCTION START OR RESUME	☐ RE	CLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION						
Date of Spud:	REPERFORATE CURRENT FORMATION		DETRACK TO REPAIR WELL	TEMPORARY ABANDON						
	TUBING REPAIR		NT OR FLARE	WATER DISPOSAL						
✓ DRILLING REPORT										
Report Date: 8/5/2013	WATER SHUTOFF		TA STATUS EXTENSION	APD EXTENSION						
	WILDCAT WELL DETERMINATION	□ от	HER	OTHER:						
	COMPLETED OPERATIONS. Clearly show	-	_	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY August 05, 2013						
NAME (PLEASE PRINT) Teena Paulo	<b>PHONE NUM</b> 720 929-6236		TITLE Staff Regulatory Specialist							
SIGNATURE N/A			<b>DATE</b> 8/5/2013							

Sundry Number: 42622 API Well Number: 43047525660000

	STATE OF UTAH		FORM 9	
,	DEPARTMENT OF NATURAL RESOURG DIVISION OF OIL, GAS, AND MI		5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 010950-A	
SUNDR	RY NOTICES AND REPORTS	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute In	
	posals to drill new wells, significantly reenter plugged wells, or to drill horizon for such proposals.	7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES		
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 921-22J1BS	
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	<b>9. API NUMBER:</b> 43047525660000			
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18tl	9. FIELD and POOL or WILDCAT: 5NATERAL BUTTES			
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2005 FSL 0644 FEL			COUNTY: UINTAH	
QTR/QTR, SECTION, TOWNSH Qtr/Qtr: NESE Section: 2	STATE: UTAH			
11. CHEC	K APPROPRIATE BOXES TO INDICA	TE NATURE OF NOTICE, REPOR	RT, OR OTHER DATA	
TYPE OF SUBMISSION		TYPE OF ACTION		
	ACIDIZE	ALTER CASING	CASING REPAIR	
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME	
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE	
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION	
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK	
SPUD REPORT	✓ PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION	
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON	
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL	
DRILLING REPORT Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION	
9/13/2013	WILDCAT WELL DETERMINATION	OTHER	OTHER:	
THE SUBJECT WEL	COMPLETED OPERATIONS. Clearly show L WAS PLACED ON PRODUC WELL HISTORY WILL BE SUBI COMPLETION REPORT.	CTION ON 9/13/2013. THE	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY October 02, 2013	
NAME (PLEASE PRINT) Teena Paulo	<b>PHONE NUME</b> 720 929-6236	BER TITLE Staff Regulatory Specialist		
SIGNATURE N/A		DATE 9/17/2013		
11//1		U/ 11/2010		

Sundry Number: 42066 API Well Number: 43047525660000

	STATE OF UTAH		FORM 9								
ı	DEPARTMENT OF NATURAL RESOUR DIVISION OF OIL, GAS, AND MI		5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 010950-A								
SUNDR	Y NOTICES AND REPORTS	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute In								
	posals to drill new wells, significantly reenter plugged wells, or to drill horiz n for such proposals.	7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES									
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: NBU 921-22J1BS										
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	9. API NUMBER: 43047525660000										
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18tl	9. FIELD and POOL or WILDCAT: 5NIATERAL BUTTES										
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2005 FSL 0644 FEL			COUNTY: UINTAH								
QTR/QTR, SECTION, TOWNSH	HIP, RANGE, MERIDIAN: 2 Township: 09.0S Range: 21.0E Meri	STATE: UTAH									
11. CHEC	11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA										
TYPE OF SUBMISSION		TYPE OF ACTION									
	ACIDIZE	ALTER CASING	CASING REPAIR								
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME								
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE								
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION								
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK								
SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION								
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON								
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL								
✓ DRILLING REPORT	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION								
Report Date: 9/4/2013		☐ SITA STATUS EXTENSION									
	WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:								
	COMPLETED OPERATIONS. Clearly show		Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY October 02, 2013								
NAME (PLEASE PRINT) Teena Paulo	<b>PHONE NUM</b> 720 929-6236	BER TITLE Staff Regulatory Specialist									
SIGNATURE N/A		<b>DATE</b> 9/4/2013									
14/73		J/7/2013									

**UNITED STATES** 

Form 3160-4

PBTVD 9941

OMB No. 1004-0137 (August 2007) DEPARTMENT OF THE INTERIOR Expires: July 31, 2010 BUREAU OF LAND MANAGEMENT WELL COMPLETION OR RECOMPLETION REPORT AND LOG Lease Serial No. UTU010950A 1a. Type of Well Oil Well **⊠** Gas Well 6. If Indian, Allottee or Tribe Name □ Dry □ Other b. Type of Completion New Well ■ Work Over Deepen □ Plug Back □ Diff. Resvr. Unit or CA Agreement Name and No. Other UTU63047A 2. Name of Operator Contact: TEENA PAULO KERR-MCGEE OIL AND GAS ONSH**@RÆ**ail: Teena.Paulo@anadarko.com Lease Name and Well No. Contact: TEENA PAULO NBU 921-22J1BS P.O. BOX 173779 3a. Phone No. (include area code) 9. API Well No. DENVER, CO 82017 Ph: 720-929-6000 43-047-52566 10. Field and Pool, or Exploratory 4. Location of Well (Report location clearly and in accordance with Federal requirements)\* NATURAL BUTTES NESE 2005FSL 644FEL 40.019800 N Lat, 109.530715 W Lon At surface 11. Sec., T., R., M., or Block and Survey or Area Sec 22 T9S R21E Mer SLB At top prod interval reported below NWSE 2424FSL 1828FEL 12. County or Parish State UINTÁH NWSE 2397FSL 1805FEL UT 14. Date Spudded 03/05/2013 15. Date T.D. Reached 16. Date Completed 17. Elevations (DF, KB, RT, GL)\* 06/23/2013 □ D & A Ready to Prod. 4862 KB 09/13/2013 18. Total Depth: MD 10197 19. Plug Back T.D.: MD 10135 20. Depth Bridge Plug Set: MD TVD 10002 TVD 10017 TVD **⊠** No Type Electric & Other Mechanical Logs Run (Submit copy of each) CBL/GR/CCL/TEMP Was well cored? 22. Yes (Submit analysis) Was DST run? ▼ No Yes (Submit analysis) ▼ Yes (Submit analysis) Directional Survey?  $\square$  No 23. Casing and Liner Record (Report all strings set in well) Bottom Stage Cementer No. of Sks. & Slurry Vol. Hole Size Size/Grade Wt. (#/ft.) Cement Top\* Amount Pulled (MD) (MD) Depth Type of Cement (BBL) 20.000 14.000 STL 28 36.7 11.000 8.625 J-55 28.0 24 2977 650 7.875 24 1913 200 4.500 I-80 11.6 5128 7.875 4.500 P 110 11.6 5128 10181 24. Tubing Record Size Depth Set (MD) Packer Depth (MD) Size Depth Set (MD) Packer Depth (MD) Size Depth Set (MD) Packer Depth (MD) 25. Producing Intervals 26. Perforation Record Formation Top Bottom Perforated Interval Size No. Holes Perf. Status A) 7952 10057 7952 TO 10057 0.360 216 **OPEN MESAVERDE** B) C) D) 27. Acid, Fracture, Treatment, Cement Squeeze, Etc Depth Interval Amount and Type of Material PUMP 10,777 BBL SLICKWATER AND 211,178 LBS 30/50 MESH SAND 28. Production - Interval A Oil Gravity Produced Date Tested Production BBL MCF BBL Corr. API Gravity 09/13/2013 09/19/2013 67.0 1940.0 FLOWS FROM WELL 24 0.0 Choke Tbg. Press Csg. 24 Hr. Oil Water Gas:Oil Well Status MCF BBL Rate BBL 1273 Ratio Size Flwg. Press 20/64 1982.0 67 1940 0 **PGW** 28a. Production - Interval B Water Gas Date First Test Oil Gas Oil Gravity Production Method Hours MCF BBL BBL Corr. API Produced Date Tested Production Gravity Choke 24 Hr. Water Gas:Oil Well Status Tbg. Press Csg. Oil Gas Size BBL Ratio Flwg. Press Rate

FORM APPROVED

API W	ell Nu	mber	: 4304	752566	0000						
28b. Produ	uction - Interv	al C									
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravit	у	Production Method	
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well S	status	•	
28c. Produ	action - Interv	al D		<u> </u>		<u> </u>	<b>!</b>	<u> </u>			
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravit	y	Production Method	
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well S	status	•	
29. Dispos SOLD	sition of Gas(S	Sold, use	d for fuel, vent	ted, etc.)	•	•	•	•			
30. Summ	ary of Porous	Zones (I	nclude Aquife	ers):					31. For	rmation (Log) Markers	
Show stests, i	all important	zones of	porosity and c	ontents there	eof: Corec e tool ope	d intervals an en, flowing ar	d all drill-stem nd shut-in pressures	3			
	E		Т	D-#		D	: Ctt-			NI	Тор
	Formation		Тор	Bottom		Descript	ions, Contents, etc.	•		Name	Meas. Depth
32 Additi	onal remarks	(include	plugging proc	edura):					BIF MA WA	REEN RIVER RD'S NEST AHOGANY ASATCH ESAVERDE	1540 1864 2429 5076 7936
The fill surfact 5237 t 5149 t	rst 210 ft. of ce hole was of feet ? 5240 f	the surfa drilled w eet. Do	ith an 11 in. b QX csa was r	drilled with oit. A DV to oun from sur	ool was process to see	placed in the 5149 ft.: LT0	remainder of e well from C csg was run fro ation report &	m			

33	Circle	enclosed	attachments:

1. Electrical/Mechanical Logs (1 full set req'd.)

2. Geologic Report

3. DST Report

4. Directional Survey

5. Sundry Notice for plugging and cement verification

6. Core Analysis

7 Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #222399 Verified by the BLM Well Information System. For KERR-MCGEE OIL AND GAS ONSHORE, sent to the Vernal

Name (please print	TEENA PAULO	Title STAFF REGULATORY SPECIALIST
Signature	(Electronic Submission)	Date 10/08/2013
g		

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fradulent statements or representations as to any matter within its jurisdiction.

				U	S ROC	KIES RE	EGION	
				Opera	tion S	Summa	ry Report	
Well: NBU 921-	22J1BS ORANGE						Spud Date: 4/1	1/2013
Project: UTAH-	UINTAH		Site: NBL	921-221	PAD			Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLIN	IG	Start Date	e: 3/4/201	3			End Date: 6/24/2013	
Active Datum: F Level)	RKB @4,862.00usft (a	bove Mean Se	ea	UWI: NE	E/SE/0/9/	/S/21/E/22	/0/0/26/PM/S/20	05/E/0/644/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
4/1/2013	18:30 - 20:30	2.00	MIRU	01	С	Р	64	RIG UP DIVERTER & FLOWLINE /SPOT RIG MAT OVER WELL, SPOT RIG OVER WELL / SPOT IN DOG HOUSE / SET CATWALK & PIPE RACKS, HOOK UP & PRIME PUMP
	20:30 - 21:00	0.50	DRLSUR	06	Α	Р	64	PICK UP 12.25" BIT & 8" MUD MOTOR & TIH
	21:00 - 22:00	1.00	DRLSUR	02	В	Р	64	DRILL 12.25" SURFACE HOLE F/44'- T/210' ROP= 166' @ 166 FPH WOB= 5-15K.  RPM= TOP DRIVE~55 / MOTOR ~83 /TOTAL  RPM~138  GPM= 491 @ 120 SPM  SPP ON/OFF= 800/600  UP/DN/ROT = 22/20/20  TORQUE ON/OFF = 2,900/1,000  NOV ON LINE  MW = 8.4
	22:00 - 22:30	0.50	DRLSUR	06	Α	Р	230	TOOH & LAY DOWN 12.25" BIT
	22:30 - 23:30	1.00	DRLSUR	06	Α	Р	230	PICK UP 11" BIT & DIR. TOOLS, SCRIBE & TIH
4/2/2013	23:30 - 0:00 0:00 - 0:30	0.50	DRLSUR	02	В	Р	230	DRILL 11" SURFACE F/210' -T/270' 4ND RUN ON 11" BIT ROP= 60' @ 120 FPH WOB= 18-22K. RPM= TOP DRIVE~50 / MOTOR ~83 / TOTAL RPM~ 133 GPM= 491 @ 120 SPM SPP ON/OFF= 800/600 UP/DOWN/ ROT= 38/32/35K.~DRAG= 3K TORQUE ON/OFF = 2,900/1,000 NOV ON LINE MW = 8.4 HOLE ISSUES = NONE
4/2/2013	0.00 - 0.30	0.50	DRLSUR	80	Α	Z	290	RIG REPAIR / REPLACE HYDRAULIC LINE ON TOP DRIVE
	0:30 - 5:30	5.00	DRLSUR	02	В	Р	290	DRILL 11" SURFACE F/270' -T/990' 1ST RUN ON 11" BIT ROP= 270' @ 144 FPH WOB= 18-22K. RPM= TOP DRIVE~50 / MOTOR ~83 / TOTAL RPM~ 133 GPM= 491 @ 120 SPM SPP ON/OFF= 1125/825 UP/DOWN/ ROT= 54/47/50K.~DRAG= 4K TORQUE ON/OFF = 2,900/1,000 NOV ON LINE MW = 8.4 HOLE ISSUES = NONE SLID - 56' = 10% 12' ABOVE AND 1' RIGHT OF LINE

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				Opera	tion S	umma	ry Report	
Nell: NBU 921-	-22J1BS ORANGE						Spud Date: 4/1	1/2013
Project: UTAH-UINTAH Site: NBU			Site: NBL	921-221	PAD			Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLIN	IG		Start Date	e: 3/4/201	3			End Date: 6/24/2013
Active Datum: F ₋evel)	RKB @4,862.00usft (al	bove Mean S	ea	UWI: NE	E/SE/0/9/	S/21/E/22	/0/0/26/PM/S/200	05/E/0/644/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	5:30 - 17:30	12.00	DRLSUR	02	В	P	1010	DRILL 11" SURFACE F/990' -T/1,800'  1ST RUN ON 11" BIT  ROP= 810' @ 67.5 FPH  WOB= 18-22K.  RPM= TOP DRIVE~50 / MOTOR ~83 / TOTAL RPM~  133  GPM= 491 @ 120 SPM  SPP ON/OFF= 1300/1080  UP/DOWN/ ROT= 72/51/60K.~DRAG= 8K  TORQUE ON/OFF = 3,100/1,200  NOV ON LINE  MW = 8.4  HOLE ISSUES = NONE  SLID - 143' = 12%  18' ABOVE AND 5' LEFT OF LINE
	17:30 - 0:00	6.50	DRLSUR	02	В	P	1820	DRILL 11" SURFACE F/1,800' -T/2430' 1ST RUN ON 11" BIT ROP= 630' @ 96.9 FPH WOB= 18-22K. RPM= TOP DRIVE~50 / MOTOR ~83 / TOTAL RPM~ 133 GPM= 491 @ 120 SPM SPP ON/OFF= 1560/1340 UP/DOWN/ ROT= 83/56/69K.~DRAG= 14K TORQUE ON/OFF = 3,100/1200 NOV ON LINE MW = 8.4 HOLE ISSUES = NONE SLID - 91' = 22% 18' ABOVE AND 8' LEFT OF LINE
4/3/2013	0:00 - 5:00	5.00	DRLSUR	02	В	P	2450	DRILL 11" SURFACE F/2,430'-T/2,610' 1ST RUN ON 11" BIT ROP= 180' @ 36 FPH WOB= 18-22K. RPM= TOP DRIVE~50 / MOTOR ~83 / TOTAL RPM~ 133 GPM= 491 @ 120 SPM SPP ON/OFF= 1570/1370 UP/DOWN/ ROT= 88/57/71K.~DRAG= 17K TORQUE ON/OFF = 3,100/1200 NOV ON LINE MW = 8.4 HOLE ISSUES = NONE SLID - 34' = 10% 9' ABOVE AND 5' LEFT OF LINE

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### API Well Number: 43047525660000 US ROCKIES REGION **Operation Summary Report** Well: NBU 921-22J1BS ORANGE Spud Date: 4/1/2013 Site: NBU 921-221 PAD Project: UTAH-UINTAH Rig Name No: PROPETRO 12/12, H&P 318/318 **Event: DRILLING** End Date: 6/24/2013 Start Date: 3/4/2013 UWI: NE/SE/0/9/S/21/E/22/0/0/26/PM/S/2005/E/0/644/0/0 Active Datum: RKB @4,862.00usft (above Mean Sea Date P/U Time Duration Phase Code MD From Operation Sub Start-End (hr) Code (usft) 5:00 - 11:30 6.50 DRLSUR 02 Ρ 2630 В DRILL 11" SURFACE F/2.610'-T/2.980' 1ST RUN ON 11" BIT ROP= 370' @ 56.9 FPH WOB= 18-22K. RPM= TOP DRIVE~50 / MOTOR ~83 / TOTAL RPM~ GPM= 491 @ 120 SPM SPP ON/OFF= 1650/1470 UP/DOWN/ ROT= 90/62/74K.~DRAG= 16K TORQUE ON/OFF = 3,100/1700 NOV ON LINE MW = 8.4HOLE ISSUES = NONE SLID - 50' = 13% 2' ABOVE AND 1' LEFT OF LINE 11:30 - 13:30 2.00 DRLSUR 3000 05 CIRCULATE & CONDITION HOLE F/ 8-5/8" CSG / SPOT 100 BBLS 10.5# MUD ON BOTTOM 13:30 - 18:30 5.00 DRLSUR Ρ 3000 06 Α TRIP OUT. HOLE STICKY - PUMPING OUT TIGHT SPOTS TO BHA. CALLED LOVEL. LAY DOWN **DIRECTIONAL TOOLS** 18:30 - 0:00 5.50 DRLSUR 06 Ε Х 3000 MAKE WIPER TRIP. WASH & REAM THROUGH BRIDGES @ 420', 780', 1230',1500',1590', 1680', 1770' TO 1890', 1980', 2010', 2400', 2580'. 4/4/2013 0:00 - 1:00 1.00 **DRLSUR** 06 Ε Χ 2770 WIPER TRIP TO BOTTOM (WASH & REAMED 2610' -2760' AND 2840') 1:00 - 3:00 2.00 DRLSUR Ρ CIRCULATE & CONDITION HOLE F/ 8-5/8" CSG 05 Α 3:00 - 7:00 4.00 **DRLSUR** 06 Α Ρ LAY DOWN DRILL STRING ( SPOT HEAVY MUD @ BHA) 7:00 - 8:00 1.00 **DRLSUR** 12 Р Α PJSM FOR CASING JOB / MOVE PIPE RACKS & CATWALK / MOVE CSG INTO POSITION TO TIH 8:00 - 10:30 2.50 **CSGSUR** 12 С Р RUN 67 JTS, 8-5/8", 28#, J-55, LT&C CSG. / SHOE SET @ 2,956.98' & BAFFLE @ 2,911.1' 10:30 - 11:00 0.50 **CSGSUR** 12 Ε Ρ RUN 200' OF 1" DOWN BACKSIDE, RIG DOWN & MOVE OFF WELL / INSTALL CMT. HEAD & LOAD **TOP PLUG** 11:00 - 13:00 2 00 **CSGSUR** 12 Ε Р PRE JOB SAFETY MEETING. PRESSURE TEST LINES TO 2000 PSI. PUMP 170 BBLS OF WATER AHEAD CLEARING THE SHOF MIX & PUMP 20 BBLS OF 8.5# GEL WATER FLUSH AHEAD OF CEMENT. MIX AND PUMP (300 sx) 152.8 BBLS OF 12.1# 2.86 YIELD LEAD CEMENT. MIX AND PUMP (200 sx) 41 BBLS OF 15.8# 1.15 YIELD TAIL CEMENT. DROP PLUG ON FLY. DISPLACE WITH 181 BBLS OF H2O. FULL RETURNS THROUGH OUT JOB. CIRCULATED 20 BBL CEMENT TO SURFACE. FINAL LIFT OF 800 PSI AT 3 BBL/MINUTE. BUMP THE PLUG WITH 1000 PSI, HELD 1000 PSI FOR 5 MINUTES. TESTED FLOAT. FLOAT DID NOT HOLD. SHUT IN CASING WITH 300 PSI. CEMENT FELL BACK. SHUT DOWN AND WASH UP. PUMP SAME TAIL (150SXS) DOWN 1". CIRCULATED 16 BBL CEMENT TO SURFACE, FELL BACK. RELEASED RIG @ 13:00, 04/04/2013

### API Well Number: 43047525660000 US ROCKIES REGION **Operation Summary Report** Well: NBU 921-22J1BS ORANGE Spud Date: 4/1/2013 Project: UTAH-UINTAH Site: NBU 921-221 PAD Rig Name No: PROPETRO 12/12, H&P 318/318 **Event: DRILLING** End Date: 6/24/2013 Start Date: 3/4/2013 UWI: NE/SE/0/9/S/21/E/22/0/0/26/PM/S/2005/E/0/644/0/0 Active Datum: RKB @4,862.00usft (above Mean Sea P/U Date Time Duration Phase Code Sub MD From Operation Start-End (hr) Code (usft) 6/17/2013 10:30 - 12:00 1.50 MIRU3 01 Ρ SKID RIG & RIG UP ROTARY TOOLS С 12:00 - 13:00 1.00 **PRPSPD** Р 14 Α NIPPLE UP BOPE 13:00 - 19:30 6.50 PRPSPD 15 Ρ Α SAFETY MEETING WITH A-1 TESTER /// TEST CHOKE, TIW DART VALVE, UPPER KELLY VALVE, LOWER KELLY VALVE, PIPE RAMS, BLIND RAMS, HCR VALVE, OUTSIDE CKOKE VALVE, INSIDE & OUTSIDE MANIFOLD VALVES, & SUPER CHOKE @ 250psi LOW FOR 5 MINUTES, AND @ 5000psi HIGH FOR 10 MINUTES.TEST ANNULAR @ 250psi LOW FOR 5 MINUTES AND @ 2500psi HIGH FOR 10 MINUTES /// TEST CASING @ 1500 PSI FOR 30 **MINUTES** 19:30 - 21:30 2 00 PRPSPD Р 15 Α TEST BEARING PACK ASSEMBLY, ORBIT VALVE, SWACO CHOKE VALVES & LINE TO 1000 PSI FOR 10 MINUTES /// ALL TESTS GOOD 21:30 - 22:00 0.50 **PRPSPD** Р 14 В INSTALL WEAR BUSHING 22:00 - 23:00 1.00 PRPSPD 09 Α SLIP & CUT 80' OF DRILLING LINE 23:00 - 23:30 0.50 **PRPSPD** 07 Ρ SERVICE RIG & EQUIPMENT 23:30 - 0:00 PICK UP DIRECTIONAL TOOLS & ORIENTATE 0.50 PRPSPD 06 Α Р Р 6/18/2013 0:00 - 2:00 2.00 **DRLPRV** 06 Α TRIP IN HOLE WITH BHA // TAGGED CEMENT @ 2:00 - 3:00 1 00 F Р **DRLPRV** 02 DRILL CMT & FLOAT EQUIPMENT F/ 2860'-T/ 2976' /// CLEAN OUT OPEN HOLE F/ 2976'- T/ 3000" 3:00 - 4:00 1.00 DRLPRV 02 В Ρ 3000 DRILL (ROTATE/SLIDE) F/ 3000'-T/ 3097' RATE OF PENATRATION= 97' @ 97' /HR WEIGHT ON BIT = 18 / 20 K RPM ~ MUD MOTOR =124 TOP DRIVE= 65 ~ TOTAL= 184 GALLONS PER MINUTE = 540 STROKES PER MINUTE = 120 STAND PIPE PSI~0N/OFF = 1300 / 1000 TORQUE~ ON/OFF = 6000 / 3000 PICKUP/SLACK OFF/ROTATE= MUD WEIGHT= 8.4 / VISCOSITY= 28 NOV DEWATERING. SWACO OFF LINE SLIDE= 0 BIT POSITION= LAST SURVEY= 0 MUD LOST TO SEEPAGE 4:00 - 5:30 1.50 **DRLPRV** 0 Χ \*\*\* FLOWLINE FROM GAS BUSTER PLUGGED OFF //

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UNPLUG GAS BUSTER FLOW LINE

## API Well Number: 43047525660000 US ROCKIES REGION **Operation Summary Report** Well: NBU 921-22J1BS ORANGE Spud Date: 4/1/2013 Project: UTAH-UINTAH Site: NBU 921-221 PAD Rig Name No: PROPETRO 12/12, H&P 318/318 **Event: DRILLING** End Date: 6/24/2013 Start Date: 3/4/2013 UWI: NE/SE/0/9/S/21/E/22/0/0/26/PM/S/2005/E/0/644/0/0 Active Datum: RKB @4,862.00usft (above Mean Sea P/U Date Time Duration Phase Code Sub MD From Operation Start-End (hr) Code (usft) 5:30 - 12:00 6.50 **DRLPRV** 02 В Ρ 3097 DRILL (ROTATE/SLIDE) F/ 3097'-T/ 3855' RATE OF PENATRATION= 758' @ 116.6' /HR WEIGHT ON BIT = 20 / 24 K RPM ~ MUD MOTOR =135 TOP DRIVE= 60 ~ TOTAL= 195 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF = 1900 / 1500 TORQUE~ ON/OFF = 6000 / 3000 PICKUP/SLACK OFF/ROTATE= 122K / 88K / 105K MUD WEIGHT= 8.6 / VISCOSITY= 30 NOV DEWATERING. SWACO OFF LINE SLIDE= 91' / 1 HOUR 35 MINUTES BIT POSITION= 9.41' HIGH & 5.0' LEFT OF TARGET LAST SURVEY @ 3611' = 19.56 DEG., 291.83 AZ, 3452' TVD 0 MUD LOST TO SEEPAGE 12:00 - 16:30 4.50 **DRLPRV** 02 3855 DRILL (ROTATE/SLIDE) F/ 3855'-T/ 4234' RATE OF PENATRATION= 379' @ 84' /HR WEIGHT ON BIT = 20 / 24 K RPM ~ MUD MOTOR =135 TOP DRIVE= 60 ~ TOTAL= 195 **GALLONS PER MINUTE = 585** STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF =2100 / 1600 TORQUE~ ON/OFF = 6000 / 3000 PICKUP/SLACK OFF/ROTATE= 135K / 90K / 110K MUD WEIGHT= 8.6 / VISCOSITY= 28 NOV DEWATERING. SWACO OFF LINE SLIDE= 74' / 2 HOUR S BIT POSITION= 13.5' HIGH & 9.1' LEFT OF TARGET LAST SURVEY @ 4177' = 13.96 DEG., 288.84 AZ, 3994' TVD 0 MUD LOST TO SEEPAGE 16:30 - 17:00 0.50 **DRLPRV** 07 Α Ρ **SERVICE RIG & EQUIPMENT**

	ell Number					KIES RE	EGION	
				Opera	tion S	umma	ry Report	
Vell: NBU 921-	22J1BS ORANGE						Spud Date: 4/1	1/2013
Project: UTAH-l	UINTAH		Site: NBU	921-221	PAD			Rig Name No: PROPETRO 12/12, H&P 318/318
vent: DRILLIN	IG		Start Date	e: 3/4/201	3			End Date: 6/24/2013
active Datum: F	RKB @4,862.00usft (a	above Mean S	ea	UWI: NE	E/SE/0/9/	S/21/E/22	/0/0/26/PM/S/20	05/E/0/644/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	17:00 - 0:00					P	4234	DRILL ( ROTATE/SLIDE) F/ 4234'- T/ 4900' RATE OF PENATRATION= 666' @ 95.1' /HR WEIGHT ON BIT = 20 / 24 K RPM ~ MUD MOTOR = 135 TOP DRIVE= 60 ~ TOTAL= 195 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF = 2100 / 1600 TORQUE~ ON/OFF = 7000 / 5000 PICKUP/SLACK OFF/ROTATE= 160K / 97K / 121K MUD WEIGHT= 8.6 / VISCOSITY= 28 NOV DEWATERING. SWACO OFF LINE SLIDE= 56' / 2 HOURS 30 MINUTES BIT POSITION= 5.8' NORTH & 8.3' WEST OF TARGET LINE LAST SURVEY @ 4838' = 4.83 DEG., 285.17 AZ, 4644.67' TVD 0 MUD LOST TO SEEPAGE
6/19/2013	0:00 - 6:00	6.00	DRLPRV	02	В	P	4900	DRILL (ROTATE/SLIDE) F/ 4900' - T/ 5300' RATE OF PENATRATION= 400' @ 66.6' /HR WEIGHT ON BIT = 20 / 24 K RPM ~ MUD MOTOR = 135 TOP DRIVE= 60 ~ TOTAL= 195 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF = 2100 / 1600 TORQUE~ ON/OFF = 7000 / 5000 PICKUP/SLACK OFF/ROTATE= 160K / 97K / 121K MUD WEIGHT= 8.6 / VISCOSITY= 28 NOV DEWATERING. SWACO OFF LINE SLIDE= 32' / 2 HOURS 5 MINUTES BIT POSITION= 7' NORTH & 18.2' WEST OF TARGET LINE LAST SURVEY @ 5027' = 1.5 DEG., 231.61 AZ, 4833' TVD

## API Well Number: 43047525660000 US ROCKIES REGION **Operation Summary Report** Spud Date: 4/1/2013 Well: NBU 921-22J1BS ORANGE Project: UTAH-UINTAH Site: NBU 921-221 PAD Rig Name No: PROPETRO 12/12, H&P 318/318 **Event: DRILLING** End Date: 6/24/2013 Start Date: 3/4/2013 UWI: NE/SE/0/9/S/21/E/22/0/0/26/PM/S/2005/E/0/644/0/0 Active Datum: RKB @4,862.00usft (above Mean Sea P/U Date Time Duration Phase Code Sub MD From Operation Start-End (hr) Code (usft) 6:00 - 12:00 6.00 **DRLPRV** 02 В Ρ 5300 DRILL (ROTATE/SLIDE) F/5300' TO 6027 RATE OF PENATRATION= 727 @ 121.16 '/HR WEIGHT ON BIT = 20 / 24 K RPM ~ MUD MOTOR =135 TOP DRIVE= 60 ~ TOTAL= 195 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF = 2200 / 1750 TORQUE~ ON/OFF = 9,000 / 5,000 PICKUP/SLACK OFF/ROTATE= 195K / 106K / 138K MUD WEIGHT= 8.6 / VISCOSITY= 28 NOV DEWATERING. SWACO OFF LINE SLIDE= 20' / 0 HOURS 50 MINUTES BIT POSITION= 5.43' NORTH & 15.06' WEST OF TARGET LINE LAST SURVEY @ 5971' = .51 DEG., 266.70 AZ, 5777.29' TVD 0 MUD LOST TO SEEPAGE 12:00 - 16:30 4.50 **DRLPRV** 02 6027 DRILL (ROTATE/SLIDE) F/6027' TO 6501 RATE OF PENATRATION= 474 @ 105.33 '/HR WEIGHT ON BIT = 20 / 24 K RPM ~ MUD MOTOR =135 TOP DRIVE= 60 ~ TOTAL= 195 **GALLONS PER MINUTE = 585** STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF = 2200 / 1750 TORQUE~ ON/OFF = 9,000 / 5,000 PICKUP/SLACK OFF/ROTATE= 195K / 106K / 138K MUD WEIGHT= 8.6 / VISCOSITY= 28 NOV DEWATERING. SWACO OFF LINE SLIDE= 18' / 0 HOURS 35 MINUTES BIT POSITION= 8.84' NORTH & 15.57' WEST OF LAST SURVEY @ 6443' = .1.32 DEG., 8.03 AZ, 6249.25' TVD 75 MUD LOST TO SEEPAGE 16:30 - 17:00 0.50 **DRLPRV** 07 Α Р RIG SER.

				U	S ROCI	KIES RE	GION	
				Opera	tion S	umma	ry Report	
/ell: NBU 921-	22J1BS ORANGE						Spud Date: 4/1	1/2013
roject: UTAH-L	JINTAH		Site: NBU	921-221	PAD			Rig Name No: PROPETRO 12/12, H&P 318/318
vent: DRILLIN	G		Start Date	e: 3/4/201	13			End Date: 6/24/2013
ctive Datum: F evel)	RKB @4,862.00usft (a	bove Mean S	ea	UWI: NI	E/SE/0/9/	S/21/E/22	/0/0/26/PM/S/20	05/E/0/644/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	17:00 - 0:00	0:00 - 6:00 6.00 DRLP			В	P	6501	DRILL (ROTATE/SLIDE) F/ 6501' TO 7095  RATE OF PENATRATION= 594 @ 84.85 '/HR  WEIGHT ON BIT = 20 / 24 K  RPM ~ MUD MOTOR =135  TOP DRIVE= 60 ~ TOTAL= 195  GALLONS PER MINUTE = 585  STROKES PER MINUTE = 130  STAND PIPE PSI~0N/OFF = 2300 / 1940  TORQUE~ ON/OFF = 10,000 / 10,000  PICKUP/SLACK OFF/ROTATE= 210K / 115K / 155K  MUD WEIGHT= 8.6 / VISCOSITY= 28  NOV DEWATERING.  SWACO OFF LINE  SLIDE= 5' / 0 HOURS 20 MINUTES  BIT POSITION= 14.2' NORTH & 9.4' WEST OF  TARGET LINE  LAST SURVEY @ 7010' = .98 DEG., 111.99 AZ, 6816.17' TVD  0 MUD LOST TO SEEPAGE
6/20/2013	0:00 - 6:00	6.00	DRLPRV	02	В	P	7095	DRILL (ROTATE/SLIDE) F/ 7095' TO 7439  RATE OF PENATRATION= 344 @ 57.33 '/HR  WEIGHT ON BIT = 20 / 24 K  RPM ~ MUD MOTOR = 135  TOP DRIVE= 60 ~ TOTAL= 195  GALLONS PER MINUTE = 585  STROKES PER MINUTE = 130  STAND PIPE PSI~0N/OFF = 2300 / 1940  TORQUE~ ON/OFF = 10,000 / 10,000  PICKUP/SLACK OFF/ROTATE= 210K / 115K / 155K  MUD WEIGHT= 8.6 / VISCOSITY= 28  NOV DEWATERING.  SWACO OFF LINE  SLIDE= 17' / 1 HOURS 0 MINUTES  BIT POSITION= 12.5' NORTH & 7.5' WEST OF  TARGET LINE  LAST SURVEY @ 7198' = .39 DEG., 329.65 AZ, 7004.15' TVD

### API Well Number: 43047525660000 US ROCKIES REGION **Operation Summary Report** Well: NBU 921-22J1BS ORANGE Spud Date: 4/1/2013 Project: UTAH-UINTAH Site: NBU 921-221 PAD Rig Name No: PROPETRO 12/12, H&P 318/318 **Event: DRILLING** End Date: 6/24/2013 Start Date: 3/4/2013 UWI: NE/SE/0/9/S/21/E/22/0/0/26/PM/S/2005/E/0/644/0/0 Active Datum: RKB @4,862.00usft (above Mean Sea P/U Date Time Duration Phase Code Sub MD From Operation Start-End (hr) Code (usft) 6:00 - 12:00 6.00 **DRLPRV** 02 Ρ 7439 В DRILL (ROTATE/SLIDE) F/7439' TO 7850 RATE OF PENATRATION= 411 @ 68.5 '/HR WEIGHT ON BIT = 20 / 24 K RPM ~ MUD MOTOR =135 TOP DRIVE= 60 ~ TOTAL= 195 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF = 2400 / 2000 TORQUE~ ON/OFF = 11,000 / 8,000 PICKUP/SLACK OFF/ROTATE= 210K / 115K / 155K MUD WEIGHT= 8.6 / VISCOSITY= 26 NOV DEWATERING. SWACO OFF LINE SLIDE= 4' / 0 HOURS 30 MINUTES BIT POSITION= 17.23' NORTH & 11.2' WEST OF LAST SURVEY @ 7858' = .70 DEG., 193.30 AZ, 7664.10' TVD 30 MUD LOST TO SEEPAGE 12:00 - 17:00 5.00 DRLPRV 7850 DRILL (ROTATE/SLIDE) F/7850' TO 8123 RATE OF PENATRATION= 273 @ 54.6 '/HR WEIGHT ON BIT = 20 / 24 K RPM ~ MUD MOTOR =135 TOP DRIVE= 60 ~ TOTAL= 195 **GALLONS PER MINUTE = 585** STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF = 2400 / 2000 TORQUE~ ON/OFF = 11,000 / 8,000 PICKUP/SLACK OFF/ROTATE= 210K / 115K / 155K MUD WEIGHT= 8.6 / VISCOSITY= 26 NOV DEWATERING. SWACO OFF LINE SLIDE= 14' / 1 HOURS 0 MINUTES BIT POSITION= 15.28' NORTH & 11.16' WEST OF LAST SURVEY @ 8046' = .28 DEG., 72.29 AZ, 7852.10' TVD 0 MUD LOST TO SEEPAGE 17:00 - 17:30 0.50 **DRLPRV** 07 Ρ 8123 RIG SER. Α 17:30 - 18:00 Z 0.50 **DRLPRV** 0 8123 22 \*\*\*SHUT DOWN TO LET WEATHFORD HAND GET UP ON BOPS & MEASURE ROT HEAD

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### API Well Number: 43047525660000 US ROCKIES REGION **Operation Summary Report** Well: NBU 921-22J1BS ORANGE Spud Date: 4/1/2013 Site: NBU 921-221 PAD Project: UTAH-UINTAH Rig Name No: PROPETRO 12/12, H&P 318/318 **Event: DRILLING** End Date: 6/24/2013 Start Date: 3/4/2013 UWI: NE/SE/0/9/S/21/E/22/0/0/26/PM/S/2005/E/0/644/0/0 Active Datum: RKB @4,862.00usft (above Mean Sea Date P/U Time Duration Phase Code Sub MD From Operation Start-End (hr) Code (usft) 18:00 - 0:00 6.00 **DRLPRV** 8123 DRILL (ROTATE/SLIDE) F/8123' TO 8505 RATE OF PENATRATION= 382 @ 63.66 '/HR WEIGHT ON BIT = 20 / 24 K RPM ~ MUD MOTOR =135 TOP DRIVE= 60 ~ TOTAL= 195 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF = 2500 / 2150 TORQUE~ ON/OFF = 11,000 / 8,000 PICKUP/SLACK OFF/ROTATE= 260K / 125K / 175K MUD WEIGHT= 8.6 / VISCOSITY= 26 NOV DEWATERING. SWACO OFF LINE SLIDE= 14' / 0 HOURS 40 MINUTES BIT POSITION= 14.4' NORTH & 7.5' WEST OF TARGET LINE LAST SURVEY @ 8424' = .1.21 DEG., 114.0 AZ, 8230.07' TVD 30 MUD LOST TO SEEPAGE 6/21/2013 0.00 - 6:00 6.00 **DRLPRV** 02 В 8505 DRILL (ROTATE/SLIDE) F/8505' TO 8813 RATE OF PENATRATION= 306 @ 51.0 '/HR WEIGHT ON BIT = 20 / 24 K RPM ~ MUD MOTOR =135 TOP DRIVE= 60 ~ TOTAL= 195 **GALLONS PER MINUTE = 585** STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF = 2500 / 2150 TORQUE~ ON/OFF = 11,000 / 8,000 PICKUP/SLACK OFF/ROTATE= 260K / 125K / 175K MUD WEIGHT= 8.6 / VISCOSITY= 26 NOV DEWATERING. SWACO OFF LINE SLIDE= 20' / 1 HOURS 45 MINUTES BIT POSITION= 13.4' NORTH & 5.6' WEST OF LAST SURVEY @ 8707' = .78 DEG., 191.29 AZ, 8513.05' TVD MUD LOST TO SEEPAGE 6:00 - 7:30 1.50 **DRLPRV** 05 В Χ 8813 \*\*\* CIRC DISPLACE 200 BBLS OF 9.5 MUD 0N **BOTTOM 8813 TO 7413** - 9:00 1.50 **DRLPRV** 06 Ζ Н \*\*\* TRIP OUT HOLE F 8813 TO 7818 (HAD TIGHT HOLE F/8282 TO 8250 ) FLOW CHECK WELL WAS FLOWING @10 GPM 9:00 - 9:30 DRLPRV 0.50 Х 05 В \*\*\* CIRC PUMP & SPOT 100 BBLS 12.0 MUD FROM 7800 TO 7100 FLOW CHECK NO FLOW 9:30 - 12:00 2.50 **DRLPRV** Ζ \*\*\* TOH TO 3100' FLOW CHECK HAD FLOW 06 Н 12:00 - 13:00 1.00 **DRLPRV** 05 В Х \*\*\* PUMP & SPOT 164 BBLS 12.0 FROM 3100' TO 13:00 - 14:00 1.00 **DRLPRV** 06 Н Ζ \*\*\* TRIP OUT HOLE ( PULLED ROT HEAD RUBBER) 14:00 - 15:30 1.50 DRLPRV 06 Н Ζ \*\*\*LAY DOWN MWD TOOLS, MUD MOTOR (LOCK UP,) BITTIH FILL PIPE @ 3100' CIRC OUT 12.0 MUD, FILL @ 5500, 15:30 - 20:30 5.00 DRLPRV 02 В Ρ TIH TO 8100' CIRC BOTTOMS UP (HAD 25' FLAR), TIH 8813 WASHED 100' TO BOTTOM HAD 10' FILL

	<del>ell Number</del>					KIES RE	EGION	
				Opera	tion S	umma	ry Report	
Vell: NBU 921-	22J1BS ORANGE						Spud Date: 4/1	1/2013
roject: UTAH-l	JINTAH		Site: NBL	921-221	PAD			Rig Name No: PROPETRO 12/12, H&P 318/318
vent: DRILLIN	G		Start Date	e: 3/4/201	13			End Date: 6/24/2013
ctive Datum: F	RKB @4,862.00usft (a	bove Mean Se	ea	UWI: NE	E/SE/0/9/	S/21/E/22	/0/0/26/PM/S/20	05/E/0/644/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	20:30 - 0:00						8813	DRILL (ROTATE/SLIDE) F/ 8813' TO 9015  RATE OF PENATRATION= 202 @ 57.71 ' /HR  WEIGHT ON BIT = 23 / 24 K  RPM ~ MUD MOTOR =112  TOP DRIVE= 56 ~ TOTAL= 167  GALLONS PER MINUTE = 486  STROKES PER MINUTE = 108  STAND PIPE PSI~0N/OFF = 2200 / 1900  TORQUE~ ON/OFF = 15,000 / 15,000  PICKUP/SLACK OFF/ROTATE= 260K / 125K / 175K  MUD WEIGHT= 94 / VISCOSITY= 31  NOV CONV.  SWACO OFF LINE  SLIDE= 5' / 0 HOURS 30 MINUTES  BIT POSITION= 13.3' NORTH & 3.9' WEST OF  TARGET LINE  LAST SURVEY @8990 ' = .88 DEG., 135.86 AZ,  8796.04 TVD  0 MUD LOST TO SEEPAGE
6/22/2013	0:00 - 6:00	6.00	DRLPRV	02	В	P	9015	DRILL (ROTATE/SLIDE) F/ 9015' TO 9329  RATE OF PENATRATION= 314 @ 52.33 ' /HR  WEIGHT ON BIT = 23 / 24 K  RPM ~ MUD MOTOR =112  TOP DRIVE= 56 ~ TOTAL= 167  GALLONS PER MINUTE = 486  STROKES PER MINUTE = 108  STAND PIPE PSI~0N/OFF = 2200 / 1900  TORQUE~ ON/OFF = 15,000 / 15,000  PICKUP/SLACK OFF/ROTATE= 260K / 125K / 175K  MUD WEIGHT= 94 / VISCOSITY= 31  NOV CONV.  SWACO OFF LINE  SLIDE= 5' / 0 HOURS 30 MINUTES  BIT POSITION= 13.3' NORTH & 3.9' WEST OF  TARGET LINE  LAST SURVEY @8990 ' = .88 DEG., 135.86 AZ, 8796.04 TVD

## API Well Number: 43047525660000 US ROCKIES REGION **Operation Summary Report** Spud Date: 4/1/2013 Well: NBU 921-22J1BS ORANGE Project: UTAH-UINTAH Site: NBU 921-221 PAD Rig Name No: PROPETRO 12/12, H&P 318/318 **Event: DRILLING** End Date: 6/24/2013 Start Date: 3/4/2013 UWI: NE/SE/0/9/S/21/E/22/0/0/26/PM/S/2005/E/0/644/0/0 Active Datum: RKB @4,862.00usft (above Mean Sea P/U Date Time Duration Phase Code Sub MD From Operation Start-End (hr) Code (usft) 6:00 - 12:00 6.00 **DRLPRV** 02 В Ρ 9329 DRILL (ROTATE/SLIDE) F/9329' TO 9615 RATE OF PENATRATION= 286 @ 47.66 '/HR WEIGHT ON BIT = 23 / 24 K RPM ~ MUD MOTOR =112 TOP DRIVE= 56 ~ TOTAL= 167 GALLONS PER MINUTE = 486 STROKES PER MINUTE = 108 STAND PIPE PSI~0N/OFF = 2200 / 1960 TORQUE~ ON/OFF = 18,000 / 12,000 PICKUP/SLACK OFF/ROTATE= 280K / 145K / 190K MUD WEIGHT= 94 / VISCOSITY= 31 NOV CONV. SWACO OFF LINE SLIDE= 0' / 0 HOURS 0 MINUTES BIT POSITION= 3.92' NORTH & 2.8' EAST OF TARGET LINE LAST SURVEY @ 9558 ' = 1.63 DEG., 148.47 AZ, 9363.93 TVD 0 MUD LOST TO SEEPAGE 12:00 - 16:00 4.00 **DRLPRV** 02 9615 DRILL (ROTATE/SLIDE) F/9615' TO 9800 RATE OF PENATRATION= 185 @ 46.25 '/HR WEIGHT ON BIT = 23 / 24 K RPM ~ MUD MOTOR =112 TOP DRIVE= 56 ~ TOTAL= 167 GALLONS PER MINUTE = 486 STROKES PER MINUTE = 108 STAND PIPE PSI~0N/OFF = 2200 / 1960 TORQUE~ ON/OFF = 18,000 / 12,000 PICKUP/SLACK OFF/ROTATE= 280K / 145K / 190K MUD WEIGHT= 94 / VISCOSITY= 31 NOV CONV. SWACO OFF LINE SLIDE= 0' / 0 HOURS 0 MINUTES BIT POSITION= 0' NORTH & 4.7' EAST OF TARGET LAST SURVEY @ 9746 ' = 1.60 DEG., 158.74 AZ, 9551.86 TVD 0 MUD LOST TO SEEPAGE 16:00 - 16:30 0.50 **DRLPRV** 07 Α Р RIG SER.

				Opera	ition S	umma	ry Report	
Nell: NRI I 921-	22J1BS ORANGE			•			Spud Date: 4/	1/2013
Project: UTAH-L			Site: NBL	J 921-22I	PAD			Rig Name No: PROPETRO 12/12, H&P 318/318
vent: DRILLIN			Start Date					End Date: 6/24/2013
	RKB @4,862.00usft (a	bove Mean S				S/21/E/22	:/0/0/26/PM/S/20	
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	16:30 - 21:00	4.50	DRLPRV	02	В	P		DRILL (ROTATE/SLIDE) F/ 9800' TO 9954  RATE OF PENATRATION= 154 @ 34.22 ' /HR  WEIGHT ON BIT = 23 / 24 K  RPM ~ MUD MOTOR = 112  TOP DRIVE= 56 ~ TOTAL= 167  GALLONS PER MINUTE = 486  STROKES PER MINUTE = 108  STAND PIPE PSI~0N/OFF = 2200 / 1960  TORQUE~ ON/OFF = 18,000 / 12,000  PICKUP/SLACK OFF/ROTATE= 280K / 145K / 190K  MUD WEIGHT= 94 / VISCOSITY= 31  NOV CONV.  SWACO OFF LINE  SLIDE= 0' / 0 HOURS 0 MINUTES  BIT POSITION= 2.5' SOUTH & 5.6' EAST OF TARGET  LINE  LAST SURVEY @ 9841' = 1.65 DEG., 155.41 AZ, 9646.82 TVD  60 BBLS MUD LOST TO SEEPAGE  DISPLACEING HOLE WITH 12.0 MUD
	21:00 - 22:00	1.00	DRLPRV	05	В	Х		*** WHILE DISPLACING MUD IN HOLE WITH 12.0 MUD LOST CIRC BUILDING VOLUME MIXED LCM LOST 160 BBLS
	22:00 - 0:00	2.00	DRLPRV	02	В	P		DRILL (ROTATE/SLIDE) F/ 9954' TO 10030 RATE OF PENATRATION= 76 @ 38.0 ' /HR WEIGHT ON BIT = 23 / 24 K RPM ~ MUD MOTOR = 93 TOP DRIVE= 56 ~ TOTAL= 149 GALLONS PER MINUTE = 405 STROKES PER MINUTE = 90 STAND PIPE PSI~0N/OFF = 2050 / 1750 TORQUE~ ON/OFF = 15,000 / 15,000 PICKUP/SLACK OFF/ROTATE= 290K / 145K / 190K MUD WEIGHT= 12.0 / VISCOSITY= 31 NOV CONV. SWACO OFF LINE SLIDE= 0' / 0 HOURS 0 MINUTES BIT POSITION= 5' SOUTH & 7' EAST OF TARGET LINE LAST SURVEY @ 9936' = 1.61 DEG., 141.81 AZ, 9741.78 TVD

### API Well Number: 43047525660000 US ROCKIES REGION **Operation Summary Report** Well: NBU 921-22J1BS ORANGE Spud Date: 4/1/2013 Site: NBU 921-221 PAD Project: UTAH-UINTAH Rig Name No: PROPETRO 12/12, H&P 318/318 **Event: DRILLING** End Date: 6/24/2013 Start Date: 3/4/2013 UWI: NE/SE/0/9/S/21/E/22/0/0/26/PM/S/2005/E/0/644/0/0 Active Datum: RKB @4,862.00usft (above Mean Sea Date P/U Time Duration Phase Code MD From Operation Sub Start-End (hr) Code (usft) 6/23/2013 0:00 - 5:00 5.00 **DRLPRV** 02 Ρ 10,030 В DRILL (ROTATE/SLIDE) F/ 10030' TO 10.197 RATE OF PENATRATION= 167 @ 33.4 '/HR WEIGHT ON BIT = 23 / 24 K RPM ~ MUD MOTOR =93 TOP DRIVE= 56 ~ TOTAL= 149 GALLONS PER MINUTE = 405 STROKES PER MINUTE = 90 STAND PIPE PSI~0N/OFF = 2050 / 1750 TORQUE~ ON/OFF = 15,000 / 15,000 PICKUP/SLACK OFF/ROTATE= 290K / 145K / 190K MUD WEIGHT= 12.0 / VISCOSITY= 31 NOV CONV. SWACO OFF LINE SLIDE= 0' / 0 HOURS 0 MINUTES BIT POSITION= 10.0' SOUTH & 10.9' EAST OF LAST SURVEY @ 10144 ' = 1.64 DEG., 135.75 AZ, 9949.70 TVD 200 BBLS MUD LOST TO SEEPAGE 5:00 - 6:30 1.50 **DRLPRV** 05 Α Р 10,197 CRIC COND FOR SHORT TRIP TO 8800' 6:30 - 8:00 Ρ 1.50 DRLPRV 06 Ε 10,197 SHORT TRIP TO 8800' 8:00 - 9:30 1.50 **DRLPRV** 05 C CIRC COND. TO RUN 4.5 CASING 9:30 - 12:30 3.00 **DRLPRV** 06 Р TRIP OUT HOLE TO RUN 4.5 CASING 12:30 - 14:00 1.50 **DRLPRV** 22 L 7 \*\*\* ATTEMT TO PULL SMITH ROTATING HEAD NO GOOD 14:00 - 15:00 1.00 **DRLPRV** 06 Р L/D MWD TOOLS 15:00 - 16:00 1.00 DRLPRV 22 1 7 \*\*\*WORK ON GET SMITH ROTATING HEAD RUBBER OUT (FINALLY POP FREE) 16:00 - 16:30 DRLPRV 0.50 06 Α Р L/D MUD MOTOR, BIT 16:30 - 17:00 0.50 DRLPRV Р PULED WEAR BUSHING 06 Α 17:00 - 18:00 1.00 **DRLPRV** 12 Ρ Α RIG UP CASING CREW POWER TONGS, ELEVATORS, SLIPS HELD SAFETY MEETING 18:00 - 0:00 DRLPRV Ρ 6.00 12 C RUN 117 JTS 4.5 LT&C P110 11.6 / & 111 JTS DQX I-80 / SHOE @ 10, 181, FLOAT COLLAR @ 10,135/ MARKE3R JT. @ 7973/ D V TOOL @ 5240 / CROSS OVER JTS @ 5149 6/24/2013 0:00 - 1:30 1.50 **DRLPRV** 12 С Р 10.197 FINSH RUNING 4.5 CASING F/ 7,640 TO 10,181 1:30 - 3:00 1.50 **DRLPRV** 05 D 10,197 CIRC CASING GAS OUT ( HAD 2' FLARE ) 3:00 - 5:30 2.50 **DRLPRV** 12 Ε Ρ PRESSSURE TEST LINES TO 5.000 PSI .PUMPED 25 BBL H20 AHEAD , PUMPED # 14.3 YIELD 1.35 1145 sacks (50:50) Poz (Fly Ash): Class G Cement + 0.05% bwoc Static Free + 10% bwow Sodium Chloride + 0.55% bwoc R-3 + 0.5% bwoc EC-1 + 0.25 lbs/sack Cello Flake + 0.002 gps FP-6L + 0.7% bwoc Sodium Metasilicate + 2% bwoc Bentonite II + 5 lbs/sack Kol-Seal, 50 lb bag + 55.9% Fresh WaterDISPLACED WITH 90 BBL CAYFIX WATER & 67 BBLS MUD BUMPED PLUG WITH 3,000 PSI LIFT PSI 2380 DROPED BOMB WAIT FOR 30 MINS OPEN TOOL WITH 820 PSI 1 BBL 5:30 - 9:00 3 50 **DRLPRV** CIRC BETWEEN STAGE HAD 15 BBL FRESH WATER BACK TO SURFACE NO CMT CALCULATED TOP OF CMT IS 5450'

### API Well Number: 43047525660000 US ROCKIES REGION **Operation Summary Report** Spud Date: 4/1/2013 Well: NBU 921-22J1BS ORANGE Project: UTAH-UINTAH Site: NBU 921-221 PAD Rig Name No: PROPETRO 12/12, H&P 318/318 Event: DRILLING Start Date: 3/4/2013 End Date: 6/24/2013 UWI: NE/SE/0/9/S/21/E/22/0/0/26/PM/S/2005/E/0/644/0/0 Active Datum: RKB @4,862.00usft (above Mean Sea Date P/U Phase Code Time Duration Sub MD From Operation Start-End Code (usft) (hr) 9:00 - 10:30 1.50 **DRLPRV** 05 Ρ Α SEC STAGE LEAD 12.5 YIELD 2.01 718 sacks Premium Lite II Cement + 0.05% bwoc Static Free + 2% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 5 lbs/sack Kol-Seal, 50 lb bag + 0.4% bwoc FL-52 + 0.4% bwoc Sodium Metasilicate + 6% bwoc Bentonite II + 101.2% Fresh Water// TAIL 15.8 YIELD 1.16 50 sacks Class G Cement + 1% bwoc Calcium Chloride + 0.4% bwoc Sodium Metasilicate + 44.4% Fresh Water DISPLACE WITH CLAY FIX WATER 81.4 BBLS BUMP PLUG 3400 PSI CLOSED TOOL LIFT PSI 1500 HAD 20 BBLS H20 BACK TO SURFACE NO CMT. CALCULATED TOP CMT @ 50 OF SURFACE 10:30 - 11:00 0.50 **DRLPRV** 12 BACK FLUSH BOPS/ SWACO LINES 11:00 - 11:30 Р 0.50 DRLPRV В L/D LANDING JT. SET PACK OFF 12 11:30 - 12:00 0.50 DRLPRV Р 14 Α NIPPLE DOWN BOPS / CLEAN PITS; RIG RELEASED@12:00 6/24/2013

# General

# **Customer Information** <del>[</del>:

Company	US ROCKIES REGION
Representative	
Address	

# Well/Wellbore Information 1.2

				P
				API
			US ROCKIES REGION	₩e.
				11
General				Nun
Customer Information				mber:
Company	US ROCKIES REGION			4
Representative				30
Address				)4
Well/Wellbore Information	tion			75256
Well	NBU 921-22J1BS ORANGE	Wellbore No.	HO	560
Well Name	NBU 921-22J1BS	Wellbore Name	NBU 921-22J1BS	00
Report No.	_	Report Date	8/26/2013	00
Project	UTAH-UINTAH	Site	NBU 921-22I PAD	)
Rig Name/No.		Event	COMPLETION	
Start Date	8/21/2013	End Date	9/13/2013	
Spud Date	4/1/2013	Active Datum	RKB @4,862.00usft (above Mean Sea Level)	
UWI	NE/SE/0/9/S/21/E/22/0/0/26/PM/S/2005/E/0/644/0/0			

## General ..

Contractor	Job Method	Supervisor	
Perforated Assembly	Conveyed Method		

Summary

1.5

# Initial Conditions 1.4

Fluid Type	Fluid Density	Gross Interval	7,952.0 (usft)-10,057.0 (us Start Date/Time	Start Date/Time	8/26/2013 12:00AM
Surface Press	Estimate Res Press	No. of Intervals	59	59 End Date/Time	8/26/2013 12:00AM
TVD Fluid Top	Fluid Head	Total Shots	216	216 Net Perforation Interval	64.00 (usft)
Hydrostatic Press	Press Difference	Avg Shot Density	3.37 (shot/ft)	3.37 (shot/ft) Final Surface Pressure	
Balance Cond NEUTRAL				Final Press Date	

# Intervals

RECEIVED: Oct.

# Perforated Interval 2.1

Misrun	
Reason	23.00 PRODUCTIO N
Charge Weight (gram)	23.00
Phasing Charge Desc /Charge (°) Manufacturer	
Phasing (°)	120.00
Carr Size (in)	3.375
Carr Type /Stage No	EXP/
Diamete r (in)	0.360 EXP/
Misfires/ Add. Shot	
Shot Density (shot/ft)	3.00
CCL-T MDTop MD Base S (usft) (usft) (usft)	7.953.0
MD Top (usft)	7.952.0
CCL-T N S S (usft)	
(Jun)	
Formation/ Reservoir	3/26/2013 MESAVERDE/ 2:00AM
Date	8/26/2013 12:00AM

October 01, 2013 at 9:46 am

2013

10,

OpenWells

Perforated Interval (Continued)

													ם	US ROCKIES REGION	
2.1 Pe	Perforated Interval (Continued)	(Continu	(pa												l Nu
Date	Formation/ Reservoir	(Jsn)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Name of Shot A Shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (*)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	imber Ima Ima Ima Ima Ima Ima Ima Ima Ima Ima
8/26/2013 12:00AM	MESAVERDE/			7,964.0	7,965.0	3.00		<u>0</u>	EXP/	3.375	120.00		23.00 F	23.00 PRODUCTIO N	: 4
8/26/2013 12:00AM	MESAVERDE/			7,978.0	7,979.0	3.00		0.360 E	EXP/	3.375	120.00		23.00 F	23.00 PRODUCTIO N	304
8/26/2013 12:00AM	MESAVERDE/			8,050.0	8,051.0	3.00		0.360 E	EXP/	3.375	120.00		23.00 F	23.00 PRODUCTIO N	175
8/26/2013 12:00AM	MESAVERDE/			8,090.0	8,091.0	3.00		0.360 E	EXP/	3.375	120.00		23.00 F	23.00 PRODUCTIO N	256
8/26/2013 12:00AM	MESAVERDE/			8,122.0	8,123.0	3.00		0.360 E	EXP/	3.375	120.00		23.00 F	23.00 PRODUCTIO N	600
8/26/2013 12:00AM	MESAVERDE/			8,190.0	8,191.0	3.00		0.360 E	EXP/	3.375	120.00		23.00 F	23.00 PRODUCTIO N	00
8/26/2013 12:00AM	MESAVERDE/			8,208.0	8,209.0	3.00		0.360 E	EXP/	3.375	120.00		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,257.0	8,258.0	4.00		0.360 EXP/	XP/	3.375	00.06		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,272.0	8,273.0	4.00		0.360 E	EXP/	3.375	90.00		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,304.0	8,305.0	4.00		0.360 EXP/	:XP/	3.375	00.06		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,470.0	8,471.0	4.00		0.360 E	EXP/	3.375	90.00		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,481.0	8,482.0	4.00		0.360 EXP/	:XP/	3.375	90.00		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,512.0	8,513.0	4.00		0.360 E	EXP/	3.375	90.00		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,550.0	8,551.0	4.00		0.360 E	EXP/	3.375	90.00		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,661.0	8,662.0	4.00		0.360 E	EXP/	3.375	90.00		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,680.0	8,681.0	4.00		0.360 E	EXP/	3.375	90.00		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,780.0	8,781.0	4.00		0.360 E	EXP/	3.375	90.00		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,795.0	8,796.0	4.00		0.360 E	EXP/	3.375	90.00		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,814.0	8,815.0	4.00		0.360 E	EXP/	3.375	90.00		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,874.0	8,875.0	4.00		0.360 EXP/	:XP/	3.375	90.00		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,949.0	8,950.0	4.00		0.360 EXP/	:XP/	3.375	90.00		23.00 F	23.00 PRODUCTIO N	

October 01, 2013 at 9:46 am

Perforated Interval (Continued)

													<b>5</b>	US ROCKIES REGION	
2.1 Pe	Perforated Interval (Continued)	(Continu	ed)												ll Nu
Date	Formation/ Reservoir	(Just)	CCL-T S S (usft)	MD Top (usft)	MD Base (usft)	Shot Mis Density Add (shot/ft)	Misfires/ D Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	umber Umber
8/26/2013 12:00AM	MESAVERDE/			8,978.0	8,979.0	4.00		<u>0</u>	EXP/	3.375	90.00		23.00 F	23.00 PRODUCTIO N	: 4
8/26/2013 12:00AM	MESAVERDE/			9,037.0	9,038.0	4.00		0.360 EX	EXP/	3.375	00.06		23.00 F	23.00 PRODUCTIO N	304
8/26/2013 12:00AM	MESAVERDE/			9,070.0	9,071.0	4.00		0.360 EX	EXP/	3.375	90.00		23.00 F	23.00 PRODUCTIO N	175
8/26/2013 12:00AM	MESAVERDE/			0'060'6	9,091.0	4.00		0.360 EX	EXP/	3.375	90.00		23.00 F	23.00 PRODUCTIO N	256
8/26/2013 12:00AM	MESAVERDE/			9,139.0	9,140.0	4.00		0.360 EX	EXP/	3.375	90.00		23.00 F	23.00 PRODUCTIO N	600
8/26/2013 12:00AM	MESAVERDE/			9,211.0	9,212.0	4.00		0.360 EX	EXP/	3.375	90.00		23.00 F	23.00 PRODUCTIO N	00
8/26/2013 12:00AM	MESAVERDE/			9,225.0	9,226.0	4.00		0.360 EX	EXP/	3.375	90.00		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,240.0	9,241.0	4.00		0.360 EXP/	XP/	3.375	00.06		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,333.0	9,334.0	4.00		0.360 EX	EXP/	3.375	90.00		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,340.0	9,341.0	4.00		0.360 EXP/	XP/	3.375	00.06		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,372.0	9,373.0	3.00		0.360 EX	EXP/	3.375	120.00		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,384.0	9,385.0	3.00		0.360 EXP/	XP/	3.375	120.00		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,406.0	9,407.0	3.00		0.360 EX	EXP/	3.375	120.00		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,460.0	9,461.0	3.00		0.360 EX	EXP/	3.375	120.00		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,505.0	9,506.0	3.00		0.360 EX	EXP/	3.375	120.00		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,512.0	9,513.0	3.00		0.360 EX	EXP/	3.375	120.00		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,521.0	9,522.0	3.00		0.360 EX	EXP/	3.375	120.00		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,534.0	9,535.0	3.00		0.360 EX	EXP/	3.375	120.00		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,568.0	9,569.0	3.00		0.360 EX	EXP/	3.375	120.00		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,626.0	9,627.0	3.00		0.360 EXP/	XP/	3.375	120.00		23.00 F	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,632.0	9,633.0	3.00		0.360 EXP/	XP/	3.375	120.00		23.00 F	23.00 PRODUCTIO N	

October 01, 2013 at 9:46 am

Perforated Interval (Continued) 2.1

													S NOCKIES NEGION	a.
2.1 Perl	Perforated Interval (Continued)	Continue	(g											ll Nu
Date	Formation/ Reservoir	(Justi)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Misfires/ Density Add. Shot (shot/ft)		e)te	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Reason Weight (gram)	umber Unaver
8/26/2013 MI 12:00AM	MESAVERDE/			9,642.0	9,643.0	3.00		0.360 EXP/		3.375	120.00		23.00 PRODUCTIO N	: 4
60	MESAVERDE/			9,653.0	9,654.0	3.00		0.360 EXP/		3.375	120.00		23.00 PRODUCTIO N	1304
8/26/2013 MI 12:00AM	MESAVERDE/			9,674.0	9,675.0	3.00	J	0.360 EXP/		3.375	120.00		23.00 PRODUCTIO N	175
8/26/2013 MI 12:00AM	MESAVERDE/			9,692.0	9,693.0	3.00		0.360 EXP/		3.375	120.00		23.00 PRODUCTIO N	256
က	MESAVERDE/			9,710.0	9,711.0	3.00		0.360 EXP/		3.375	120.00		23.00 PRODUCTIO N	600
m	MESAVERDE/			9,740.0	9,742.0	3.00		0.360 EXP/		3.375	120.00		23.00 PRODUCTIO N	00
8/26/2013 MI 12:00AM	MESAVERDE/			9,758.0	9,760.0	3.00		0.360 EXP/		3.375	120.00		23.00 PRODUCTIO N	
8/26/2013 MI 12:00AM	MESAVERDE/			9,780.0	9,782.0	3.00		0.360 EXP/		3.375	120.00		23.00 PRODUCTIO N	
8/26/2013 MI 12:00AM	MESAVERDE/			9,790.0	9,792.0	3.00		0.360 EXP/		3.375	120.00		23.00 PRODUCTIO N	
	MESAVERDE/			0.606,6	9,910.0	3.00	)	0.360 EXP/		3.375	120.00		23.00 PRODUCTIO N	
8/26/2013 MI 12:00AM	MESAVERDE/			9,954.0	9,955.0	3.00		0.360 EXP/		3.375	120.00		23.00 PRODUCTIO	
8/26/2013 MI 12:00AM	MESAVERDE/			9,984.0	9,985.0	3.00		0.360 EXP/		3.375	120.00		23.00 PRODUCTIO	
8/26/2013 MI 12:00AM	MESAVERDE/			0'666'6	10,000.0	3.00		0.360 EXP/		3.375	120.00		23.00 PRODUCTIO N	
8/26/2013 MI 12:00AM	MESAVERDE/			10,012.0	10,013.0	3.00		0.360 EXP/		3.375	120.00		23.00 PRODUCTIO N	
8/26/2013 MI 12:00AM	MESAVERDE/			10,020.0	10,021.0	3.00	J	0.360 EXP/		3.375	120.00		23.00 PRODUCTIO N	
8/26/2013 MI 12:00AM	MESAVERDE/			10,055.0	10,057.0	3.00		0.360 EXP/		3.375	120.00		23.00 PRODUCTIO	

**Plots** 

October 01, 2013 at 9:46 am

				U	S ROC	KIES R	EGION		
				Opera	tion S	Summa	ary Report		
Well: NBU 921-2	2J1BS ORANGE						Spud Date: 4/1	1/2013	
Project: UTAH-U	INTAH		Site: NBL	921-221	PAD			Rig Name No: MILES 2/2	
Event: COMPLE	TION		Start Date	e: 8/21/2013 End Date: 9/13/2013					
Active Datum: R	KB @4,862.00usft	(above Mean S	ea	UWI: NE/SE/0/9/S/21/E/22/0/0/26/PM/S/2005/E/0/644/0/0					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation	
7/15/2013	7:00 - 7:15	0.25	SUBSPR	48		Р	, ,	HSM, SLIPS, TRIPS & FALLS, RIG MOVE, PU TBG	
	7:15 -		SUBSPR	31	l	Р		2 OF 6, RD OFF NBU 921-22G4CS, MIRU, ND WH, NU BOP, RU FLOOR & TBG EQUIP, PU TBG TAGGED @ 5,000', RU P/S, BREAK REV CIRC, P/T BOP TO 3,000 PSI, D/O CMT & DV TOOL FROM 5,000' TO 5,064' FELL FREE ((DV TOOL WAS SUPPOSED TO BE @ 5,237', PU TBG RIH TAGGED @ 10,130' PBTD @ 10134', L/D TBG, SWI, SDFN	
7/16/2013	7:00 - 7:15	0.25	SUBSPR	48		Р		HSM, SLIPS, TRIPS & FALLS, L/D TBG, RIG MOVE	
	7:15 - 12:00	4.75	SUBSPR	31	I	Р		2 OF 6, L/D TBG, RD FLOOR, ND BOP, NU WH, FILL HOLE & P/T TO 3,000 PSI W/ R/P TEST GOOD NO COMMUNICATION W/ SURFACE CSG, RD & MOVE TO NBU 921-22J4AS	
7/31/2013	-								
8/21/2013	14:00 - 15:00	1.00	SUBSPR	52	В	Р		FILL SURFACE CSG. MIRU CAMERON QUICK TEST. PRESSURE TEST CSG & FRAC VALVES  1ST PSI TEST T/ 7000 PSI. HELD FOR 15 MIN LOST 62 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI.  PRESSURE TEST 8 5/8 X 4 1/2 TO520 PSI HELD FOR 5 MIN LOST -108 PSI,BLED PSI OFF, REINSTALLED POP OFF SWIFN 50 PRESSURE ON SURFACE CASING FILLED SURFACE WITH 1 BBL H2O	
8/22/2013	10:45 - 11:00	0.25		48		Р		MIRU CASEDHOLE SOLUTION, HSM	
	11:00 - 15:00	4.00		37	С	P		PERF STAGE 1 MESAVERDE	
8/26/2013	6:45 - 7:00 9:00 - 16:00	0.25 7.00		48 36	Н	P P		HSM, REFER TO STIMULATION PJR FOR FLUID, SAND AND CHEMICAL VOLUMES, ALL STAGES WERE PERFORATED ACCORDING TO PERF RECORD IN OPEN WELLS, ALL STAGES WERE STIMULATED TO VENDOR POST JOB REPORT. ALL PLUGS ARE HALIBURTON 8K CBPS  FRAC STG #1] WHP=420#, BRK DN PERFS=3587#, @=3.7 BPM, INTIAL ISIP=2857#, FG=.72, FINAL ISIP=3038#, FG=.74,	
8/27/2013	6:00 - 6:15	0.25		48		Р		SET PLUG & PERFORATE STG #2 HSM,	

API We	ell Number	43047	52566		S ROCK	(IFS RI	GION	
							ry Report	
Malla NIDLL 004 6	20 14 20 0 2 4 14 2 5			Орста				/2042
Project: UTAH-U	22J1BS ORANGE		Site: NBU	921-221	PΔD		Spud Date: 4/1	Rig Name No: MILES 2/2
Event: COMPLE								End Date: 9/13/2013
	: HON :KB @4,862.00usft (at	Nove Mean Sec	Start Date			 	/0/0/26/PM/S/200	
Level)								
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:00 - 17:00	10.00		36	Н	P		FRAC STG #2] WHP=1856#, BRK DN PERFS=4338#,  @=4.9 BPM, INTIAL ISIP=3220#, FG=.77, FINAL ISIP=2906#, FG=.74,  SET PLUG & PERFORATE STG #3  FRAC STG #3] WHP=2216#, BRK DN PERFS=4069#,  @=4.7 BPM, INTIAL ISIP=3127#, FG=.76, FINAL ISIP=3200#, FG=.77,  SET PLUG & PERFORATE STG #4  FRAC STG #4] WHP=1673#, BRK DN PERFS=3072#,  @=4.8 BPM, INTIAL ISIP=2339#, FG=.69, FINAL ISIP=2966#, FG=.75,  SET PLUG PERFORATE STG #5
8/28/2013	6:30 - 6:45 7:00 - 17:00	0.25		48 36	Н	PP		HSM,  FRAC STG #5] WHP=2301#, BRK DN PERFS=3590#, @=3.3 BPM, INTIAL ISIP=2780#, FG=.74, FINAL ISIP=2920#, FG=.75,  SET PLUG AND PERFORATE STG #6  FRAC STG #6] WHP=1634#, BRK DN PERFS=3876#, @=4.6 BPM, INTIAL ISIP=2520#, FG=.72, FINAL ISIP=2875#, FG=.77,  SET PLUG AND PERFORATE STG #7  FRAC STG #7] WHP=1758#, BRK DN PERFS=2520#, @=4.4 BPM, INTIAL ISIP=2011#, FG=.67, FINAL ISIP=2793#, FG=.76,
8/29/2013	6:30 - 6:45	0.25		48		Р		HSM, OVER HEAD LOADS
	7:00 - 13:00	6.00		36	Н	P		FRAC STG #8] WHP=865#, BRK DN PERFS=2,491#, @=4.1 BPM, INTIAL ISIP=1,951#, FG=.67, FINAL ISIP=2,560#, FG=.74,  SET PLUG AND PERFORATE STG #9  FRAC STG #9] WHP=1,400#, BRK DN PERFS=2,096#, @=2.4 BPM, INTIAL ISIP=1,540#, FG=.63, FINAL ISIP=2,508#, FG=.75,  SET TOP KILL  TOTAL BBLS= 10777 TOTAL SAND= 211178
9/12/2013	7:00 - 7:15	0.25	DRLOUT	48		Р		HSM, SLIPS, TRIPS & FALLS, RIGGING UP, PU TBG,
	7:15 - 15:00	7.75	DRLOUT	31	I	Р		PT BOP  ND WH, NU BOP, RU FLOOR & TBG EQUIP, PU 3 7/8"  BIT, POBS, 1.875" XN S/N, TALLY & PU TBG TO KILL  PLUG', RU P/S, FILL TBG & BREAK CIRC, P/T BOP TO  3,000 PSI, READY TO D/O CBPS IN AM, SWI, SDFN.

API Well Number: 43047525660000  US ROCKIES REGION  Operation Summary Report												
Well: NBU 921-2	Well: NBU 921-22J1BS ORANGE Spud Date: 4/1/2013											
Project: UTAH-U	INTAH		Site: NBL	921-22I PAD Rig Name No: MILES				Rig Name No: MILES 2/2				
Event: COMPLE	TION		Start Date	: 8/21/2013				End Date: 9/13/2013				
Active Datum: Ri	KB @4,862.00usft (al	bove Mean Se	a	UWI: NE/SE/0/9/S/21/E/22/0/0/26/PM/S/2005/E/0/644/0/0				5/E/0/644/0/0				
Date	Date Time Duration Phase Start-End (hr)					P/U	MD From (usft)	Operation				
9/13/2013	7:00 - 7:15	0.25	DRLOUT	48		Р		HSM, SLIPS, TRIPS & FALLS, D/O CBPS, LANDING TBG				

API We	<del>ll Number</del>	· 4304	752566			KIES R	EGION			
				Opera	tion S	Summa	ary Report			
Well: NBU 921-2	2J1BS ORANGE						Spud Date: 4/1/	/2013		
Project: UTAH-U	INTAH		Site: NBL	921-221	PAD			Rig Name No: MILES 2/2		
Event: COMPLE	TION		Start Date	e: 8/21/2013				End Date: 9/13/2013		
Active Datum: RI	KB @4,862.00usft (al	bove Mean S	ea	UWI: NE	UWI: NE/SE/0/9/S/21/E/22/0/0/26/PM/S/2005/E/0/644/0/0					
Date	Time	Duration	Phase	Code	Sub	P/U	MD From	Operation		
	7:15 - 15:00	(hr) 7.75	DRLOUT	44	Code C	Р	(usft)	BREAK CIRC, SURFACE CSG VALVE OPEN & LOCKED, D/O 9 PLUGS		
								C/O 20' SAND, TAG 1ST PLUG @ 7,902', KICK 200 PSI, RIH		
								C/O 40' SAND, TAG 2ND PLUG @ 8,239', KICK 100 PSI, RIH		
								C/O 30' SAND, TAG 3RD PLUG @ 8,540', KICK 100 PSI, RIH		
								C/O 30' SAND, TAG 4TH PLUG @ 8,845', KICK 300 PSI, RIH		
								C/O 20' SAND, TAG 5TH PLUG @ 9,121', KICK 300 PSI, CSG PRESS 500 PSI, RIH		
								C/O 30' SAND, TAG 6TH PLUG @ 9,362', KICK 100 PSI, RIH		
								C/O 20' SAND, TAG 7TH PLUG @ 9,558', KICK 200 PSI, RIH		
								C/O 20' SAND, TAG 8TH PLUG @ 9,730', KICK 300 PSI, CSG PRESS 700 PSI, RIH		
								C/O 20' SAND, TAG 9TH PLUG @ 9,822', KICK 600 PSI, CSG PRESS 800 PSI		
								PBTD @ 10,134', BTM PERF @ 10,057', RIH TAGGED @ 10,085', C/O TO 10,134' PBTD, 77' PAST BTM PERF W/ 326 JTS 2 3/8" L-80 & J-55 TBG, LD 13 JTS, PU & STRIP IN TBG HANGER & LAND TBG W/ 313 JTS 2 3/8", EOT 9,722.92'.		
								RD P/S, FLOOR & TBG EQUIP, ND BOPS, NU WH, DROP BALL & SHEAR OFF BIT, P/T LINE FROM WH TO HAL 9000 TO 3,000 PSI, NO VISIBLE LEAKS, LET BIT FALL FOR 20 MIN.		
								TURN OVER TO FLOW BACK CREW & SALES, RD TO MOVE TO NEXT WELL ON PAD ON MONDAY, SDFWE.		
								KB= 24' 4 1/16" CAMERON HANGER= .83' DELIVERED 171 JTS L-80 163 JTS 2 3/8" L-80= 5,171.93' TBG DELIVERED 150 JTS J-55 1 - 6' PUP JT L-80= 6.20' TOTAL TBG= 321 JTS L-80 & J-55 150 JTS 2 3/8" J-55 = 4,517.81' TBG USED 313 JTS POBS= 2.20' TBG RETURNED 8 JTS L-80		

API Wei	API Well Number: 43047525660000  US ROCKIES REGION										
	Operation Summary Report										
Well: NBU 921-22J1BS ORANGE Spud Date: 4/1/2013											
Project: UTAH-UINTAH Site: NBU 921-22I PAD Rig Name No: MILES 2/2											
Event: COMPLETION Start Date: 8/21/2013 End Date: 9/13/2013											
Active Datum: Rh Level)	(B @4,862.00usft (ab	oove Mean Se	ea	UWI: NE/SE/0/9/S/21/E/22/0/0/26/PM/S/2005/E/0/644/0/0							
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation			
								EOT @ 9,722.92'			
								TWTR= 10,778 BBLS			
							TWR= 4,000 BBLS				
	15:00 - 15:00 0.00 DRLOU			50				TWLTR= 6,778 BBLS			
	15.00 - 15:00	0.00	DRLOUT	50				WELL TURNED TO SALES @ 13:40 HRON 9/13/2013. 1800 MCFD, 1680 BWPD, FCP 2450#, FTP 1985#, 20/64" CK.			

API Well Number: 43047525660000



## **SDI** Survey Report



Company: US ROCKIES REGION PLANNING

Project: UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 921-22I PAD

 Well:
 NBU 921-22J1BS

Wellbore: OH

Design: OH

Geo Datum: Map Zone:

Site

Local Co-ordinate Reference:

TVD Reference: GL 4838 & KB 24 @ 4862.00ft (HP 318)

MD Reference: GL 4838 & KB 24 @ 4862.00ft (HP 318)

North Reference: True

Survey Calculation Method: Minimum Curvature

Database:

EDM 5000.1 Single User Db

Well NBU 921-22J1BS

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System: Universal Transverse Mercator (US Survey Feet)

NAD 1927 (NADCON CONUS) Zone 12N (114 W to 108 W) System Datum: Mean Sea Level

NBU 921-22I PAD, SECTION 22 T9S R21E

Northing: 14,536,670.34 usft Site Position: Latitude: 40.019857 From: Lat/Long Easting: 2,051,977.29 usft Longitude: -109.530049 **Position Uncertainty:** 0.00 ft Slot Radius: 13.200 in **Grid Convergence:** 0.95 °

Well NBU 921-22J1BS, 2005 FSL 644 FEL **Well Position** +N/-S 0.00 ft Northing: 14,536,662.79 usft Latitude: 40.019836 +E/-W 0.00 ft Easting: 2,051,983.58 usft Longitude: -109.530027 0.00 ft Ground Level: 4,838.00 ft **Position Uncertainty** Wellhead Elevation: ft

ОН Wellbore **Model Name** Declination Dip Angle Field Strength Magnetics Sample Date (°) (°) (nT) IGRF2010 11/17/11 11.04 65.87 52,294

ОН Design Audit Notes: ACTUAL Version: 1.0 Phase: Tie On Depth: 0.00 **Vertical Section:** Depth From (TVD) +N/-S +E/-W Direction (ft) (ft) (ft) (°) 0.00 0.00 0.00 288.67

07/24/13 **Survey Program** Date From То (ft) Survey (Wellbore) **Tool Name** Description 20.00 2,935.00 Survey #1 SDI MWD SURFACE (OH) SDI MWD SDI MWD - Standard ver 1.0.1 3,045.00 10,197.00 Survey #2 SDI MWD PRODUCTION (OH) SDI MWD SDI MWD - Standard ver 1.0.1

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00
175.00	0.88	211.87	174.99	-1.01	-0.63	0.27	0.57	0.57	0.00
FIRST SDI N	IWD SURFACE S	SURVEY							
288.00	1.83	296.21	287.97	-0.95	-2.71	2.26	1.73	0.84	74.64
373.00	3.69	299.67	372.87	1.00	-6.30	6.29	2.20	2.19	4.07
463.00	5.48	300.74	462.58	4.63	-12.51	13.34	1.99	1.99	1.19
553.00	7.03	295.63	552.04	9.21	-21.17	23.01	1.83	1.72	-5.68
643.00	8.17	289.42	641.25	13.72	-32.17	34.87	1.56	1.27	-6.90
733.00	9.96	288.61	730.12	18.33	-45.58	49.05	1.99	1.99	-0.90



## **SDI** Survey Report



Company: US ROCKIES REGION PLANNING

Project: UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 921-22I PAD

 Well:
 NBU 921-22J1BS

Wellbore: OH
Design: OH

Local Co-ordinate Reference:

TVD Reference:

North Reference: Survey Calculation Method:

Database:

Well NBU 921-22J1BS

GL 4838 & KB 24 @ 4862.00ft (HP 318) GL 4838 & KB 24 @ 4862.00ft (HP 318)

True

Minimum Curvature

EDM 5000.1 Single User Db

Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)
823.00	11.17	289.83	818.59	23.77	-61.15	65.55	1.37	1.34	1.36
913.00	13.37	287.90	906.53	29.93	-79.26	84.67	2.49	2.44	-2.14
1,003.00	14.07	286.23	993.96	36.19	-99.66	106.00	0.89	0.78	-1.86
1,093.00	15.54	287.93	1,080.97	42.95	-121.64	128.99	1.70	1.63	1.89
1,183.00	17.41	288.42	1,167.27	50.92	-145.89	154.51	2.08	2.08	0.54
1,273.00	18.91	287.90	1,252.79	59.66	-172.54	182.56	1.68	1.67	-0.58
1,363.00	20.29	288.62	1,337.57	69.12	-201.21	212.75	1.56	1.53	0.80
1,453.00	21.28	289.39	1,421.71	79.53	-231.40	244.68	1.14	1.10	0.86
1,543.00	22.07	289.13	1,505.35	90.49	-262.78	277.92	0.88	0.88	-0.29
1,633.00	21.81	286.84	1,588.83	100.88	-294.76	311.54	0.99	-0.29	-2.54
1,723.00	22.51	285.61	1,672.19	110.36	-327.36	345.46	0.93	0.78	-1.37
1,813.00	21.02	290.18	1,755.77	120.56	-359.10	378.80	2.51	-1.66	5.08
1,903.00	20.40	291.06	1,839.96	131.77	-388.89	410.61	0.77	-0.69	0.98
1,993.00	20.22	289.04	1,924.36	142.48	-418.23	441.83	0.80	-0.20	-2.24
2,083.00	18.55	287.19	2,009.26	151.78	-446.61	471.70	1.98	-1.86	-2.06
2,173.00	19.43	289.83	2,094.36	161.09	-474.37	500.98	1.37	0.98	2.93
2,263.00	17.50	292.47	2,179.73	171.34	-500.96	529.45	2.34	-2.14	2.93
2,353.00	18.29	291.70	2,265.37	181.74	-526.59	557.05	0.92	0.88	-0.86
2,443.00	19.04	292.22	2,350.64	192.51	-553.30	585.81	0.85	0.83	0.58
2,533.00	18.64	291.76	2,435.81	203.39	-580.25	614.82	0.47	-0.44	-0.51
2,623.00	20.31	292.12	2,520.66	214.61	-608.08	644.78	1.86	1.86	0.40
2,713.00	19.08	291.50	2,605.40	225.88	-636.23	675.06	1.39	-1.37	-0.69
2,803.00	17.94	292.03	2,690.74	236.47	-662.77	703.59	1.28	-1.27	0.59
2,893.00	18.82	290.62	2,776.15	246.78	-689.21	731.94	1.10	0.98	-1.57
2,935.00	18.91	290.09	2,815.89	251.51	-701.94	745.51	0.46	0.21	-1.26
	WD SURFACE S								
3,045.00	17.87 IWD PRODUCTI	285.56	2,920.28	262.16	-734.94	780.19	1.61	-0.95	-4.12
FIRST SDI W	IVVD FRODUCTI	ON SURVET							
3,139.00	18.42	287.63	3,009.60	270.52	-762.99	809.44	0.90	0.59	2.20
3,233.00	19.92	289.89	3,098.39	280.47	-792.20	840.30	1.78	1.60	2.40
3,328.00	21.28	289.28	3,187.31	291.67	-823.69	873.72	1.45	1.43	-0.64
3,422.00	21.03	289.51	3,274.98	302.94	-855.69	907.64	0.28	-0.27	0.24
3,516.00	19.43	288.05	3,363.18	313.41	-886.46	940.14	1.78	-1.70	-1.55
3,611.00	19.56	291.83	3,452.73	324.22	-916.25	971.82	1.33	0.14	3.98
3,705.00	18.43	290.28	3,541.62	335.22	-944.79	1,002.39	1.32	-1.20	-1.65
3,800.00	17.31	289.09	3,632.03	345.05	-972.23	1,031.53	1.24	-1.18	-1.25
3,894.00	16.91	287.35	3,721.87	353.70	-998.50	1,059.18	0.69	-0.43	-1.85
3,988.00	16.19	287.63	3,811.98	361.75	-1,024.04	1,085.95	0.77	-0.77	0.30
4,083.00	15.12	289.01	3,903.45	369.80	-1,048.37	1,111.58	1.19	-1.13	1.45
4,177.00	13.96	288.84	3,994.44	377.45	-1,070.70	1,135.18	1.23	-1.23	-0.18
4,271.00	12.24	286.09	4,085.99	383.87	-1,091.00	1,156.48	1.95	-1.83	-2.93
4,365.00	12.90	285.57	4,177.74	389.45	-1,110.69	1,176.91	0.71	0.70	-0.55



## **SDI** Survey Report



Company: US ROCKIES REGION PLANNING

Project: UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 921-22I PAD

 Well:
 NBU 921-22J1BS

Wellbore: OH
Design: OH

Local Co-ordinate Reference:

TVD Reference:
MD Reference:

North Reference: Survey Calculation Method:

Database:

Well NBU 921-22J1BS

GL 4838 & KB 24 @ 4862.00ft (HP 318) GL 4838 & KB 24 @ 4862.00ft (HP 318)

True

Minimum Curvature

EDM 5000.1 Single User Db

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,554.0	0 9.58	284.27	4,362.96	399.45	-1,146.80	1,214.33	2.20	-2.18	-1.74
4,649.0	0 7.64	284.10	4,456.88	402.94	-1,160.59	1,228.51	2.04	-2.04	-0.18
4,743.0	0 6.64	289.85	4,550.15	406.31	-1,171.76	1,240.17	1.31	-1.06	6.12
4,838.0		285.17	4,644.67	409.22	-1,180.79	1,249.65	1.97	-1.91	-4.93
4,933.0		274.07	4,739.45	410.44	-1,187.17	1,256.09	2.03	-1.87	-11.68
5,027.0	0 1.50	231.61	4,833.37	409.86	-1,190.63	1,259.18	2.33	-1.65	-45.17
5,121.0	0 0.55	170.64	4,927.36	408.65	-1,191.52	1,259.64	1.41	-1.01	-64.86
5,216.0	0 0.91	174.54	5,022.35	407.45	-1,191.38	1,259.12	0.38	0.38	4.11
5,310.0	0 1.06	111.65	5,116.34	406.38	-1,190.50	1,257.94	1.10	0.16	-66.90
5,404.0	0 1.23	117.72	5,210.32	405.59	-1,188.80	1,256.08	0.22	0.18	6.46
5,499.0	0 0.62	46.26	5,305.31	405.47	-1,187.52	1,254.83	1.25	-0.64	-75.22
5,593.0	0 0.61	59.95	5,399.31	406.08	-1,186.72	1,254.27	0.16	-0.01	14.56
5,688.0	0 0.50	63.66	5,494.30	406.51	-1,185.91	1,253.64	0.12	-0.12	3.91
5,782.0	0 0.26	115.78	5,588.30	406.60	-1,185.35	1,253.14	0.42	-0.26	55.45
5,877.0	0 0.81	276.99	5,683.30	406.59	-1,185.83	1,253.58	1.12	0.58	169.69
5,971.0		266.70	5,777.29	406.65	-1,186.90	1,254.62	0.34	-0.32	-10.95
6,066.0	0 1.01	0.91	5,872.29	407.46	-1,187.31	1,255.27	1.23	0.53	99.17
6,160.0	0 0.68	342.17	5,966.28	408.82	-1,187.47	1,255.85	0.45	-0.35	-19.94
6,255.0	0 0.62	351.06	6,061.27	409.86	-1,187.72	1,256.43	0.12	-0.06	9.36
6,349.0	0 0.41	320.89	6,155.27	410.63	-1,188.01	1,256.95	0.36	-0.22	-32.10
6,443.0		8.03	6,249.25	411.96	-1,188.07	1,257.43	1.15	0.97	50.15
6,538.0	0 0.87	352.80	6,344.24	413.76	-1,188.01	1,257.95	0.56	-0.47	-16.03
6,632.0	0 1.36	38.64	6,438.22	415.34	-1,187.40	1,257.88	1.04	0.52	48.77
6,727.0	0 1.05	59.23	6,533.20	416.66	-1,185.95	1,256.93	0.56	-0.33	21.67
6,821.0	0 0.87	74.60	6,627.19	417.29	-1,184.52	1,255.78	0.33	-0.19	16.35
6,915.0		98.47	6,721.18	417.39	-1,183.20	1,254.55	0.37	-0.10	25.39
7,010.0		111.99	6,816.17	416.99	-1,181.81	1,253.11	0.30	0.21	14.23
7,104.0		133.19	6,910.15	416.08	-1,180.41	1,251.49	0.42	0.12	22.55
7,198.0		329.65	7,004.15	415.74	-1,179.92	1,250.92	1.56	-0.74	-173.98
7,292.0	0 0.95	323.46	7,098.14	416.64	-1,180.55	1,251.80	0.60	0.60	-6.59
7,386.0	0 0.88	333.93	7,192.13	417.92	-1,181.33	1,252.95	0.19	-0.07	11.14
7,480.0	0 0.66	323.43	7,286.12	419.00	-1,181.97	1,253.90	0.28	-0.23	-11.17
7,574.0		315.37	7,380.11	419.79	-1,182.64	1,254.79	0.11	-0.06	-8.57
7,669.0		327.17	7,475.11	420.42	-1,183.17	1,255.49	0.24	-0.21	12.42
7,763.0		190.11	7,569.11	420.45	-1,183.39	1,255.71	0.69	-0.11	-145.81
7,858.0	0 0.70	193.30	7,664.11	419.64	-1,183.57	1,255.62	0.42	0.42	3.36
7,952.0	0 0.67	190.32	7,758.10	418.54	-1,183.80	1,255.49	0.05	-0.03	-3.17
8,046.0	0 0.28	72.29	7,852.10	418.07	-1,183.68	1,255.22	0.89	-0.41	-125.56
8,141.0	0 0.36	109.93	7,947.10	418.04	-1,183.17	1,254.74	0.23	0.08	39.62
8,235.0	0 0.56	78.23	8,041.09	418.03	-1,182.45	1,254.04	0.34	0.21	-33.72
8,330.0	0 0.71	94.82	8,136.09	418.08	-1,181.41	1,253.07	0.25	0.16	17.46
8,424.0	0 1.21	114.00	8,230.07	417.63	-1,179.92	1,251.52	0.63	0.53	20.40
8,518.0	0 0.85	74.74	8,324.06	417.41	-1,178.34	1,249.95	0.82	-0.38	-41.77
8,613.0	0 0.46	196.02	8,419.06	417.23	-1,177.77	1,249.35	1.22	-0.41	127.66



## SDI Survey Report



US ROCKIES REGION PLANNING Company:

Project: UTAH - UTM (feet), NAD27, Zone 12N

Site: NBU 921-22I PAD Well: NBU 921-22J1BS

Wellbore: ОН ОН Design:

Local Co-ordinate Reference:

Well NBU 921-22J1BS GL 4838 & KB 24 @ 4862.00ft (HP 318) TVD Reference:

MD Reference: GL 4838 & KB 24 @ 4862.00ft (HP 318)

North Reference:

Minimum Curvature **Survey Calculation Method:** 

Database: EDM 5000.1 Single User Db

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,707.00	0.78	191.29	8,513.05	416.24	-1,177.99	1,249.25	0.34	0.34	-5.03
8,801.00	0.55	51.83	8,607.05	415.89	-1,177.77	1,248.92	1.33	-0.24	-148.36
8,896.00	0.46	57.54	8,702.04	416.37	-1,177.08	1,248.43	0.11	-0.09	6.01
8,990.00	0.88	135.86	8,796.04	416.06	-1,176.26	1,247.55	0.96	0.45	83.32
9,085.00	1.11	150.48	8,891.02	414.73	-1,175.30	1,246.22	0.36	0.24	15.39
9,180.00	0.55	147.46	8,986.01	413.55	-1,174.60	1,245.18	0.59	-0.59	-3.18
9,274.00	1.04	140.58	9,080.01	412.51	-1,173.82	1,244.10	0.53	0.52	-7.32
9,369.00	1.32	148.13	9,174.99	410.91	-1,172.69	1,242.52	0.34	0.29	7.95
9,463.00	1.35	141.13	9,268.96	409.13	-1,171.43	1,240.75	0.18	0.03	-7.45
9,558.00	1.63	148.47	9,363.93	407.11	-1,170.02	1,238.77	0.36	0.29	7.73
9,652.00	1.49	152.53	9,457.89	404.89	-1,168.76	1,236.86	0.19	-0.15	4.32
9,746.00	1.60	158.74	9,551.86	402.58	-1,167.72	1,235.14	0.21	0.12	6.61
9,841.00	1.65	155.41	9,646.82	400.10	-1,166.67	1,233.35	0.11	0.05	-3.51
9,936.00	1.61	141.81	9,741.78	397.81	-1,165.27	1,231.30	0.41	-0.04	-14.32
10,030.00	1.61	147.24	9,835.75	395.66	-1,163.74	1,229.16	0.16	0.00	5.78
10,125.00	1.57	134.63	9,930.71	393.62	-1,162.09	1,226.95	0.37	-0.04	-13.27
10,144.00	1.64	135.75	9,949.70	393.24	-1,161.72	1,226.47	0.40	0.37	5.89
LAST SDI M	WD PRODUCTIO	N SURVEY							
10,197.00	1.64	135.75	10,002.68	392.16	-1,160.66	1,225.12	0.00	0.00	0.00

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
DTGT_NBU 921-22JIBS - actual wellpath mis - Circle (radius 15.0	sses target cen	0.00 ter by 17.38	4,799.50 ft at 4992.91	427.48 ft MD (4799.3	-1,187.19 30 TVD, 410.2	14,537,070.62 9 N, -1189.73 E)	2,050,789.50	40.021010	-109.534267
TOC @ 5469.00(NBU 9 - actual wellpath mis - Point		0.00 ter by 18.09	5,469.00 ft at 5662.79	424.49 oft MD (5469.0	-1,185.40 9 TVD, 406.4	14,537,067.66 1 N, -1186.12 E)	2,050,791.34	40.021002	-109.534260
TOC @ 5469.00 NBU 97 - actual wellpath mis - Point		0.00 ter by 17.70	5,489.00 ft at 5682.79	424.18 oft MD (5489.0	-1,185.21 9 TVD, 406.4	14,537,067.36 9 N, -1185.95 E)	2,050,791.53	40.021001	-109.534260
PBHL_NBU 921-22JIBS	0.00	0.00	10,001.0	402.48	-1,172.19	14,537,045.87	2,050,804.90	40.020941	-109.534213
- actual wellpath mis - Circle (radius 25.0	•	ter by 15.42	ft at 10194.8	8ft MD (1000	0.56 TVD, 392	2.20 N, -1160.70 E	)		
BLACKHAWK_NBU 921		0.00 ter by 453 58	10,456.0 0 8ft at 10197	402.48 00ft MD (100)	-1,172.19	14,537,045.87 92 16 N -1160 66 I	2,050,804.90	40.020941	-109.534213
- Circle (radius 25.0	U						_,		

API Well Number: 43047525660000



## SDI Survey Report



Company:

US ROCKIES REGION PLANNING

Project: UTAH - UTM (feet), NAD27, Zone 12N

Site: NBU 921-22I PAD Well: NBU 921-22J1BS

Wellbore: ОН ОН Design:

Local Co-ordinate Reference:

Well NBU 921-22J1BS TVD Reference:

GL 4838 & KB 24 @ 4862.00ft (HP 318) MD Reference: GL 4838 & KB 24 @ 4862.00ft (HP 318)

North Reference:

Minimum Curvature **Survey Calculation Method:** 

EDM 5000.1 Single User Db Database:

Casing Points						
	Measured	Vertical			Casing	Hole
	Depth	Depth			Diameter	Diameter
	(ft)	(ft)	N	ame	(in)	(in)
	2,957.00	2,836.72	8 5/8"		8.625	11.000

Design Annotation	ns				
М	leasured	Vertical	Local Coo	ordinates	
	Depth (ft)	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
	( ',	( -/	(IL)	(11)	
	175.00	174.99	-1.01	-0.63	FIRST SDI MWD SURFACE SURVEY
	2,935.00	2,815.89	251.51	-701.94	LAST SDI MWD SURFACE SURVEY
	3,045.00	2,920.28	262.16	-734.94	FIRST SDI MWD PRODUCTION SURVEY
	10,144.00	9,949.70	393.24	-1,161.72	LAST SDI MWD PRODUCTION SURVEY
	10,197.00	10,002.68	392.16	-1,160.66	SDI PROJECTION TO BIT

Checked By:	Approved By:	Date: